



# STIC Search Report

## EIC 1700

STIC Database Tracking Number: 171997

**TO: Sow-Fun Hon**  
**Location: REM 8B49**  
**Art Unit : 1772**  
**November 22, 2005**

**Case Serial Number: 10/804303**

**From: Usha Shrestha**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
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### Search Notes

Examiner Hon,

The structures you have requested to search on Claim 26-27 and 42 are too broad to do the structure search and also the other structures from claims 30-33 and 44-45 also are very broad to do the structure search as well. So, I used the polymer class term to cover the all the structure and completed the search. If you have any questions please let me know. Thank You.

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: SOW-FUN HON Examiner #: 77463 Date: 11/18/03  
 Art Unit: 1772 Phone Number 302-1492 Serial Number: 10/804/303  
 Mail Box and Bldg/Room Location: REM 3 B49 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: LIQUID CRYSTAL PANEL SCIENTIFIC REFERENCE BR  
 Inventors (please provide full names): TSCIDA ET AL Sci & Tech Inf - Cntr

NOV 18 REC'D

Earliest Priority Filing Date: 03/26/03 Pat. & T.M. Office

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLEASE SEARCH

CLAIMS 26-27, 30-33, 42, 44-45

## STAFF USE ONLY

Searcher: WHL  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: 11/22/05  
 Date Completed: 11/22/05  
 Searcher Prep & Review Time: 120  
 Clerical Prep Time: 30  
 Online Time: 120

## Type of Search

NA Sequence (#) \_\_\_\_\_  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) \_\_\_\_\_  
 Bibliographic \_\_\_\_\_  
 Litigation \_\_\_\_\_  
 Fulltext X  
 Patent Family \_\_\_\_\_  
 Other \_\_\_\_\_

## Vendors and cost where applicable

STN 8: 417.51  
 Dialog \_\_\_\_\_  
 Questel/Orbit \_\_\_\_\_  
 Dr. Link \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_  
 Sequence Systems \_\_\_\_\_  
 WWW/Internet \_\_\_\_\_  
 Other (specify) \_\_\_\_\_



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

10/807,303

WHAT IS CLAIMED IS:

1. A liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates, wherein:

5 said liquid crystal layer comprises a liquid crystal and a cross-linked resin;

said cross-linked resin comprises a cross-linked structural part adhered to a liquid crystal layer contacting surface (adhered, cross-linked structural part) and a terminal part rising from the liquid crystal layer contacting surface (rising terminal part); and the outer surface of at least one substrate is curved;

2. A liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates, wherein:

15 said liquid crystal layer comprises a liquid crystal and a cross-linked resin;

said cross-linked resin comprises a cross-linked structural part adhered to a liquid crystal layer contacting surface (adhered, cross-linked structural part) and a terminal part rising from the liquid crystal layer contacting surface (rising terminal part); and said liquid crystal layer contacting surface is curved;

3. A liquid crystal panel according to claim 1, wherein  
25 said liquid crystal layer contacting surface is curved.

4. A liquid crystal panel according to claim 1, wherein



said liquid crystal panel has a filter layer, and said liquid crystal layer contacting surface is the surface of the filter layer or the surface of an electrode or electrodes installed in contact with the filter layer.

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5. A liquid crystal panel according to claim 2, wherein:  
said liquid crystal panel has a filter layer, and said liquid crystal layer contacting surface is the surface of the filter layer or the surface of an electrode or electrodes installed in contact with the filter layer.

6. A liquid crystal according to claim 2, wherein said curved surface of the liquid crystal layer contacting surface is composed of a plurality of concavities and convexities.

7. A liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates; wherein:

said liquid crystal layer comprises a liquid crystal and a cross-linked resin;

said cross-linked resin comprises a cross-linked structural part adhered to a liquid crystal layer contacting surface (adhered, cross-linked structural part) and a terminal part rising from the liquid crystal layer contacting surface (rising terminal part); and

the thickness of one of said substrates is not more than  $1/2$  of the thickness of the other substrate.

8. A liquid crystal panel according to claim 1, wherein the thickness of one of said substrates is not more than  $1/2$  of the thickness of the other substrate.

5 9. A liquid crystal panel according to claim 2, wherein the thickness of one of said substrates is not more than  $1/2$  of the thickness of the other substrate.

10. A liquid crystal panel according to claim 1, wherein the thickness of at least one of said substrates is in the range of from 100 to 500  $\mu\text{m}$ .

11. A liquid crystal panel according to claim 2, wherein the thickness of at least one of said substrates is in the range of from 100 to 500  $\mu\text{m}$ .

12. A liquid crystal panel according to claim 1, wherein the material of one of said substrates is different from that of the other substrate.

13. A liquid crystal panel according to claim 2, wherein the material of one of said substrates is different from that of the other substrate.

14. A liquid crystal panel according to claim 12, wherein said substrates comprise a glass substrate and a plastic substrate.

15. A liquid crystal panel according to claim 13,  
wherein said substrates comprise a glass substrate and a  
plastic substrate.

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16. A liquid crystal panel according to claim 1, wherein  
said liquid crystal tilts while the tilting direction is  
regulated by uneven parts or slits of an electrode or  
electrodes when voltage is applied.

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17. A liquid crystal panel according to claim 2, wherein  
said liquid crystal tilts while the tilting direction is  
regulated by uneven parts or slits of an electrode or  
electrodes when voltage is applied.

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18. A liquid crystal panel according to claim 1, wherein  
said panel does not have an alignment control film.

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19. A liquid crystal panel according to claim 2, wherein  
said panel does not have an alignment control film.

20. A liquid crystal panel according to claim 1, wherein  
said liquid crystal has a negative dielectric anisotropy.

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21. A liquid crystal panel according to claim 2, wherein  
said liquid crystal has a negative dielectric anisotropy.

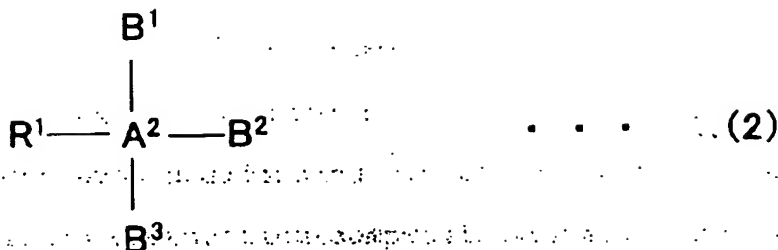
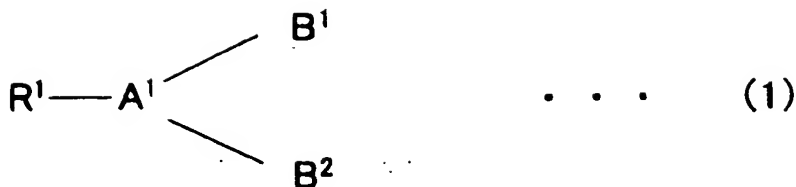
22. A liquid crystal panel according to claim 1, wherein  
said liquid crystal layer is formed by cross-linking, in the  
presence of a liquid crystal, a resin composition comprising  
one or more first compounds having a cross-linkable  
5 structural part, and a hydrophobic terminal part with a  
straight-chain section having three or more carbon atoms  
(hydrophobic, long-chain terminal part).

23. A liquid crystal panel according to claim 2, wherein  
10 said liquid crystal layer is formed by cross-linking, in the  
presence of a liquid crystal, a resin composition comprising  
one or more first compounds having a cross-linkable  
structural part, and a hydrophobic terminal part with a  
straight-chain section having three or more carbon atoms  
15 (hydrophobic, long-chain terminal part).

24. A liquid crystal panel according to claim 22,  
wherein said cross-linkable structural part of the one or  
more first compounds comprises a polar-group structural part.  
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25. A liquid crystal panel according to claim 23,  
wherein said cross-linkable structural part of the one or  
more first compounds comprises a polar-group structural part.

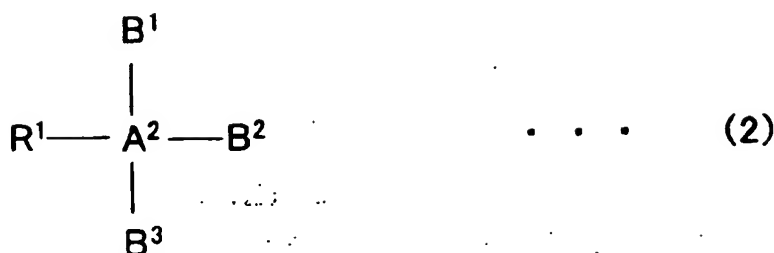
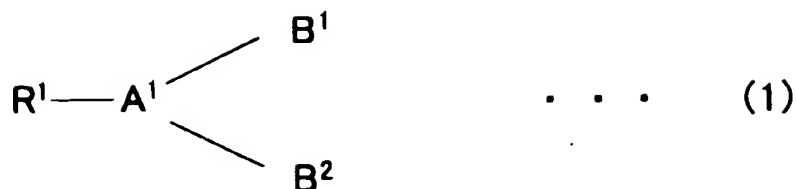
26. A liquid crystal panel according to claim 24,  
wherein at least one compound represented by formula (1) or  
(2) below is included as the one or more first compounds;



(in formulae (1) and (2), R<sup>1</sup> is a hydrophobic, long-chain terminal part; A<sup>1</sup> is a trivalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, an alicyclic ring that may have a substituting group, or nitrogen; A<sup>2</sup> is a tetravalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, or an alicyclic ring that may have a substituting group; B<sup>1</sup>, B<sup>2</sup>, and B<sup>3</sup> are, each, a cross-linkable structural part; and R<sup>1</sup>, B<sup>1</sup>, B<sup>2</sup>, and B<sup>3</sup> can be selected independently from each other in the formulae).

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27. A liquid crystal panel according to claim 25, wherein at least one compound represented by formula (1) or (2) below is included as the one or more first compounds,

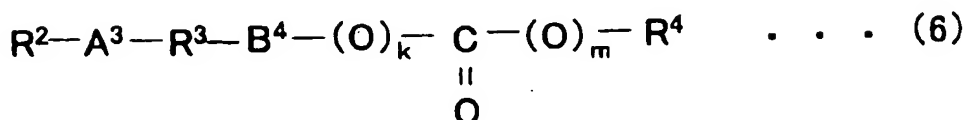
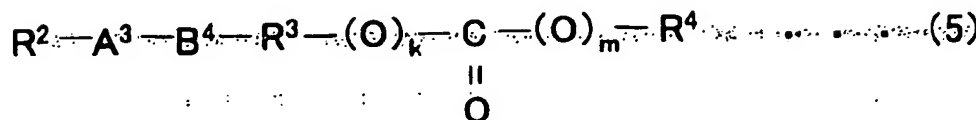
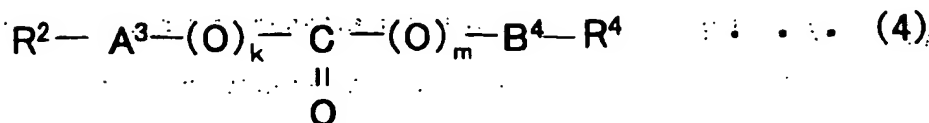
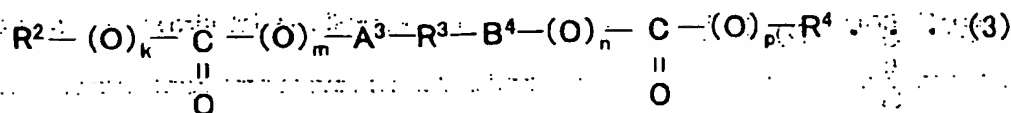


(in formulae (1) and (2), R<sup>1</sup> is a hydrophobic, long-chain terminal part; A<sup>1</sup> is a trivalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, an alicyclic ring that may have a substituting group, or nitrogen; A<sup>2</sup> is a tetravalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, or an alicyclic ring that may have a substituting group; B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> are, each, a cross-linkable structural part; and R<sup>1</sup>, B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> can be selected independently from each other in the formulae).

- 15        28. A liquid crystal panel according to claim 26, wherein said one or more first compounds comprise a second compound with a cross-linkable structural part and substantially without a hydrophobic, long-chain terminal part.

29. A liquid crystal panel according to claim 27,  
 wherein said one or more first compounds comprise a second  
 compound with a cross-linkable structural part and  
 5 substantially without a hydrophobic, long-chain terminal part.

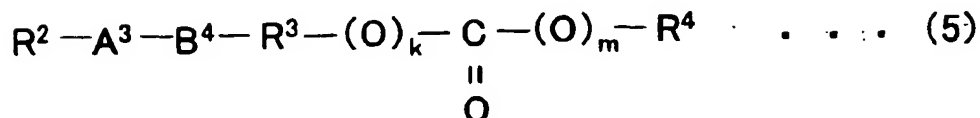
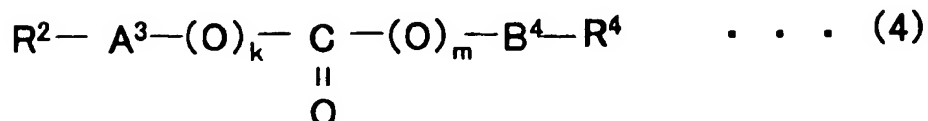
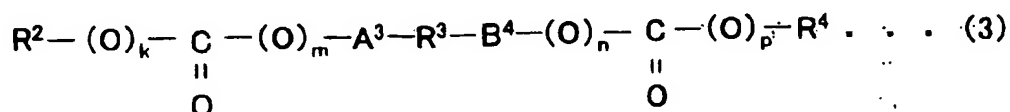
30. A liquid crystal panel according to claim 28,  
 wherein at least one compound selected from the group  
 consisting of the compounds represented by formulae (3) to  
 10 (6) below is included as the second compound,



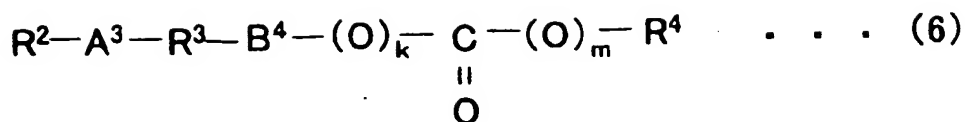
15 (in formulae (3) to (6), A<sup>3</sup> and B<sup>4</sup> are, independently from

each other, a vinylene group or a propenylene group;  $R^3$  is a divalent group;  $R^2$  and  $R^4$  are, independently from each other, hydrogen, an alkyl group that may be branched or an aromatic ring that may be substituted; at least one of  $R^2$ ,  $R^3$  and  $R^4$  is an aromatic ring;  $k$ ,  $m$ ,  $n$  and  $p$  are, independently from each other, 0 (zero) or 1; and  $R^2$ - $R^4$ ,  $A^3$ ,  $B^4$ ,  $k$ ,  $m$ ,  $n$  and  $p$  can be selected independently from each other in the formulae).

31. A liquid crystal panel according to claim 29, wherein at least one compound selected from the group consisting of the compounds represented by formulae (3) to (6) below is included as the second compound;



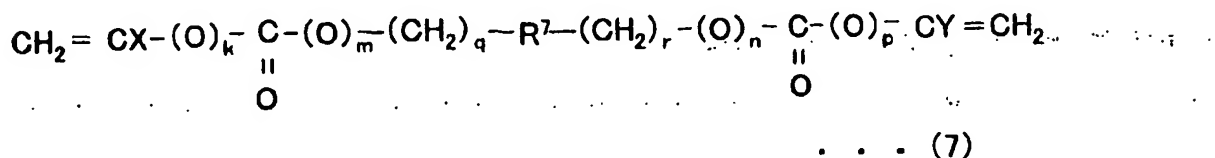




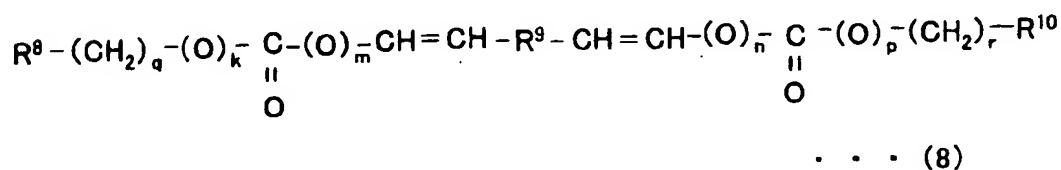
(in formulae (3) to (6), A<sup>3</sup> and B<sup>4</sup> are, independently from each other, a vinylene group or a propenylene group; R<sup>3</sup> is a divalent group; R<sup>2</sup> and R<sup>4</sup> are, independently from each other, hydrogen, an alkyl group that may be branched or an aromatic ring that may be substituted; at least one of R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is an aromatic ring; k, m, n and p are, independently from each other, 0 (zero) or 1; and R<sup>2</sup>-R<sup>4</sup>, A<sup>3</sup>, B<sup>4</sup>, k, m, n and p can be selected independently from each other in the formulae).

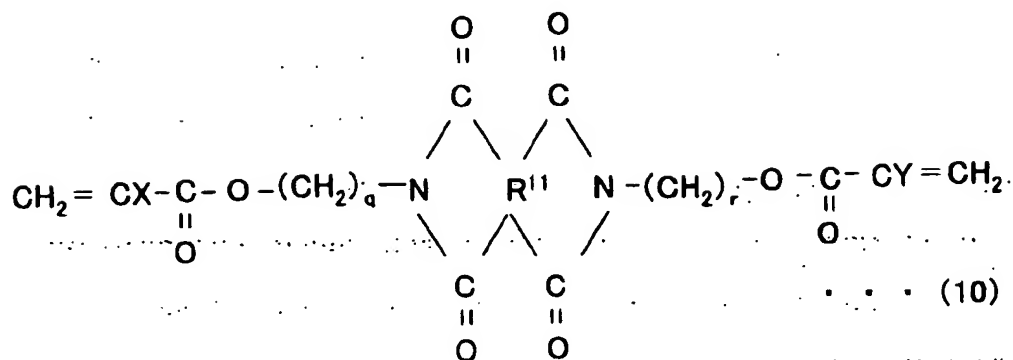
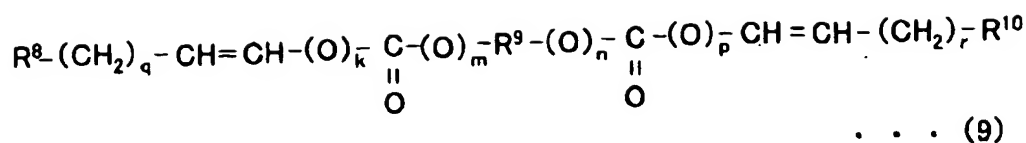
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32. A liquid crystal panel according to claim 30, wherein at least one compound selected from the group consisting of the compounds represented by formulae (7) to (10) below is included as the second compound,



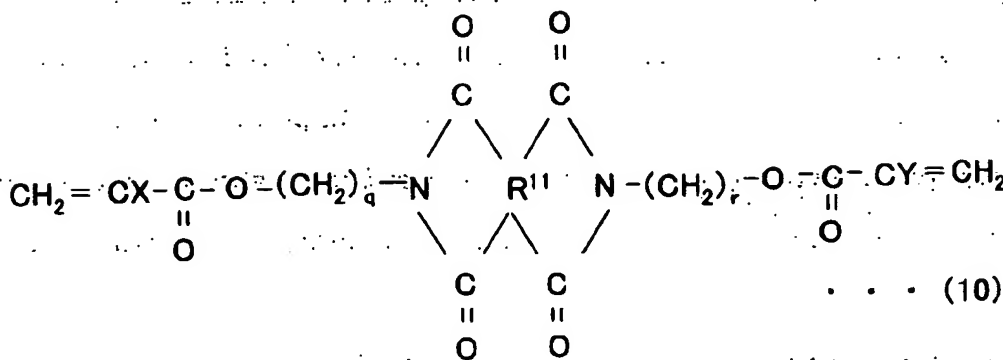
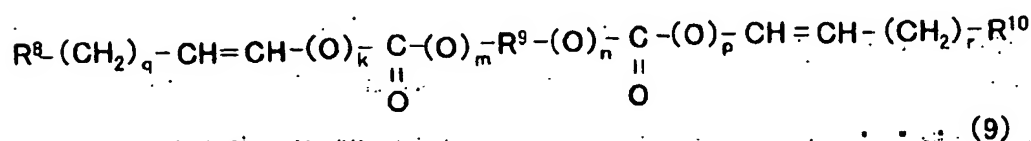
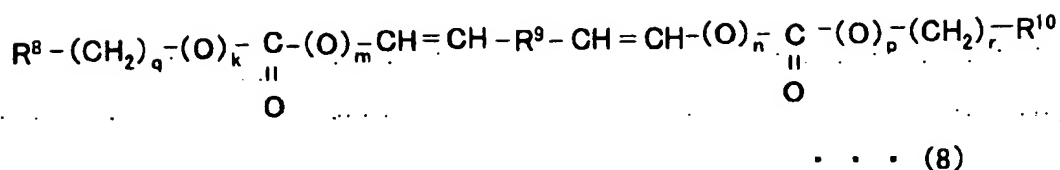
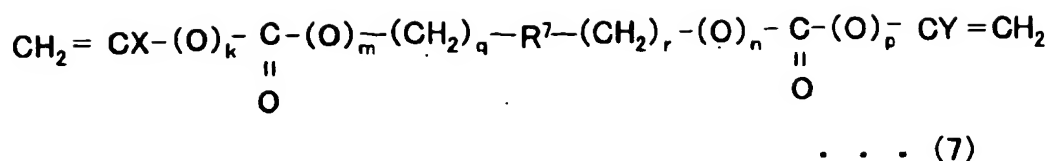
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(in formulae (7) to (10), X and Y are, each independently, hydrogen or a methyl group; R<sup>7</sup> is a divalent organic group having a five-member ring structure; R<sup>8</sup> and R<sup>10</sup> are hydrogen or an organic group; R<sup>9</sup> is a divalent organic group; at least one of R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup> has a five-member ring structure; R<sup>11</sup> is a tetravalent organic group constituting a tetracarboxylic acid residue; k, m, n and p are, independently from each other, 0 (zero) or 1; q and r are, independently from each other, an integer not less than 0 (zero) and not more than 6; and R<sup>8</sup>-R<sup>10</sup>, k, m, n, p, q and r can be selected independently from each other in the formulae).

33. A liquid crystal panel according to claim 31, wherein at least one compound selected from the group consisting of the compounds represented by formulae (7) to (10) below is included as the second compound,



(in formulae (7) to (10), X and Y are, each independently, hydrogen or a methyl group; R<sup>7</sup> is a divalent organic group having a five-member ring structure; R<sup>8</sup> and R<sup>10</sup> are hydrogen or an organic group; R<sup>9</sup> is a divalent organic group; at least one of R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup> has a five-member ring structure; R<sup>11</sup> is a tetravalent organic group constituting a tetracarboxylic acid residue; k, m, n and p are, independently from each

other, 0 (zero) or 1; q and r are, independently from each other, an integer not less than 0 (zero) and not more than 6; and  $R^8-R^{10}$ , k, m, n, p, q and r can be selected independently from each other in the formulae).

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34. A liquid crystal panel according to claim 7, wherein the thickness of at least one of said substrates is in the range of from 100 to 500  $\mu\text{m}$ .

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35. A liquid crystal panel according to claim 7, wherein the material of one of said substrates is different from that of the other substrate.

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36. A liquid crystal panel according to claim 35, wherein said substrates comprise a glass substrate and a plastic substrate.

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37. A liquid crystal panel according to claim 7, wherein said liquid crystal tilts while the tilting direction is regulated by uneven parts or slits of an electrode or electrodes when voltage is applied.

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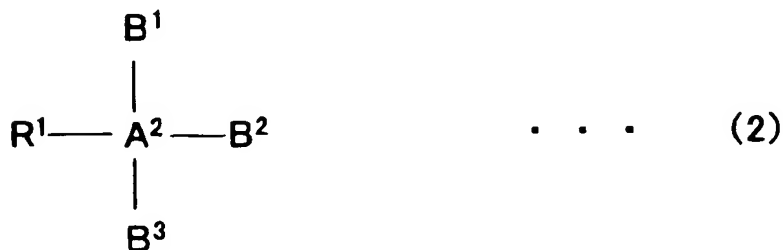
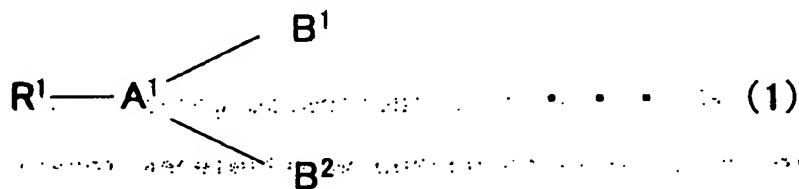
38. A liquid crystal panel according to claim 7, wherein said panel does not have an alignment control film.

39. A liquid crystal panel according to claim 7, wherein said liquid crystal has a negative dielectric anisotropy.

40. A liquid crystal panel according to claim 7, wherein said liquid crystal layer is formed by cross-linking, in the presence of a liquid crystal, a resin composition comprising one or more first compounds having a cross-linkable structural part, and a hydrophobic terminal part with a straight-chain section having three or more carbon atoms (hydrophobic, long-chain terminal part).

41. A liquid crystal panel according to claim 40, wherein said cross-linkable structural part of the one or more first compounds comprises a polar-group structural part.

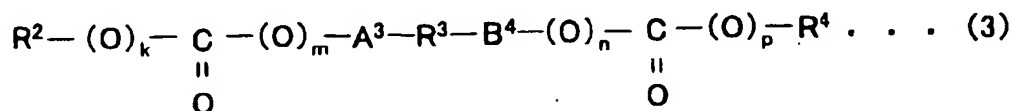
42. A liquid crystal panel according to claim 41, wherein at least one compound represented by formula (1) or (2) below is included as the one or more first compounds,

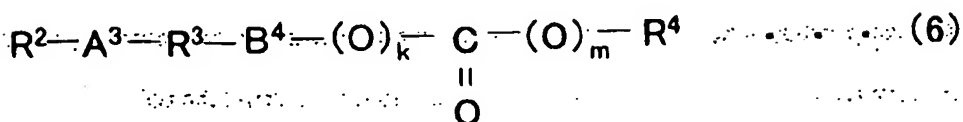
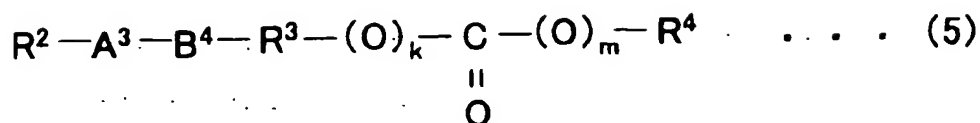
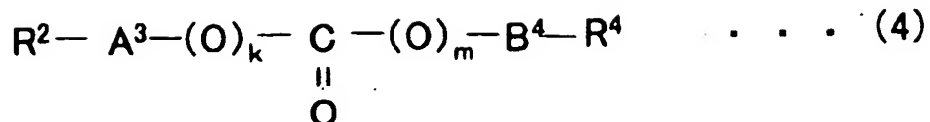


(in formulae (1) and (2), R<sup>1</sup> is a hydrophobic, long-chain terminal part; A<sup>1</sup> is a trivalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, an alicyclic ring that may have a substituting group, or nitrogen; A<sup>2</sup> is a tetravalent group comprising an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, or an alicyclic ring that may have a substituting group; B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> are, each, a cross-linkable structural part; and R<sup>1</sup>, B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> can be selected independently from each other in the compounds represented by formulae (1) and (2)).

43. A liquid crystal panel according to claim 42, wherein said one or more first compounds comprise a second compound with a cross-linkable structural part and substantially without a hydrophobic, long-chain terminal part.

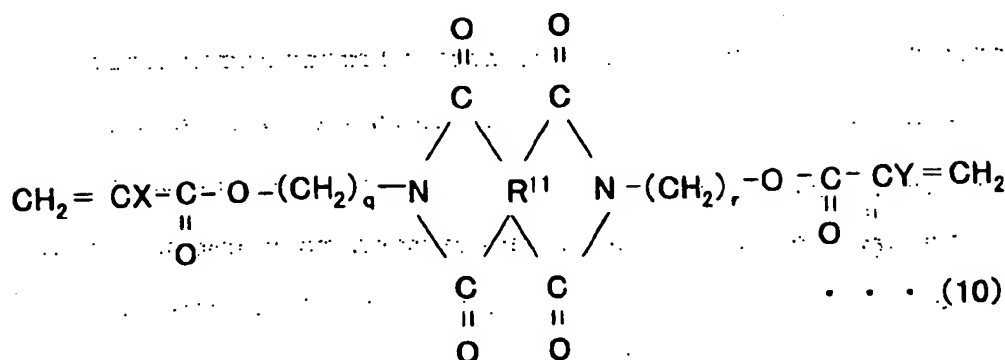
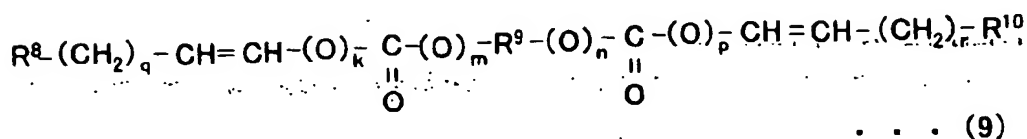
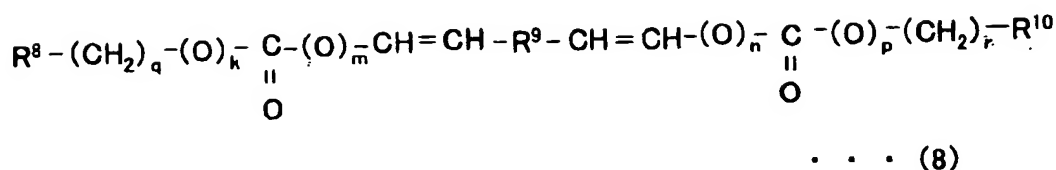
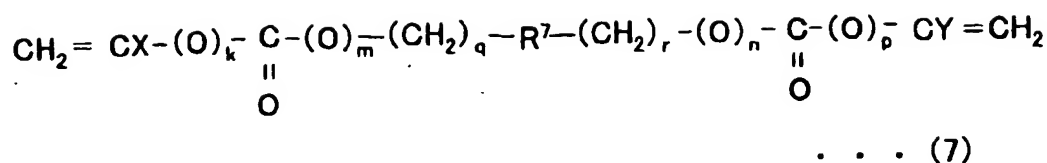
44. A liquid crystal panel according to claim 43, wherein at least one compound selected from the group consisting of the compounds represented by formulae (3) to (6) below is included as the second compound,





(in formulae (3) to (6); A<sup>3</sup> and B<sup>4</sup> are, independently from each other, a vinylene group or a propenylene group; R<sup>3</sup> is a divalent group; R<sup>2</sup> and R<sup>4</sup> are, independently from each other, hydrogen, an alkyl group that may be branched or an aromatic ring that may be substituted; at least one of R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> is an aromatic ring; k, m, n and p are, independently from each other, 0 (zero) or 1; and R<sup>2</sup>-R<sup>4</sup>, A<sup>3</sup>, B<sup>4</sup>, k, m, n and p can be selected independently from each other in the formulae)

45. A liquid crystal panel according to claim 44, wherein at least one compound selected from the group consisting of the compounds represented by formulae (7) to (10) below is included as the second compound,



5 (in formulae (7) to (10), X and Y are, each independently, hydrogen or a methyl group; R<sup>7</sup> is a divalent organic group having a five-member ring structure; R<sup>8</sup> and R<sup>10</sup> are hydrogen or an organic group; R<sup>9</sup> is a divalent organic group; at least one of R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup> has a five-member ring structure; R<sup>11</sup> is

10 a tetravalent organic group constituting a tetracarboxylic acid residue; k, m, n and p are, independently from each other, 0 (zero) or 1; q and r are, independently from each



other, an integer not less than 0 (zero) and not more than 6;  
and  $R^8-R^{10}$ , k, m, n, p, q and r can be selected independently  
from each other in the formulae).

- 5        46. A liquid crystal panel comprising a plurality of  
liquid crystal panels according to one of claims 1 to 45  
stacked one over another.

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FILE 'REGISTRY' ENTERED AT 11:21:53 ON 22 NOV 2005

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FILE 'HCAPLUS' ENTERED AT 08:08:18 ON 22 NOV 2005

L1 1 S US20040191428/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 08:08:43 ON 22 NOV 2005

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L3 53512 S PI/PCT  
L4 83799 S PA/PCT  
L5 18207 S PC/PCT  
L6 315219 S PACR/PCT  
L7 315219 S L6 OR L6  
L8 150000 S L7 RAN=(162266-87-7,)  
L9 165219 S L7 NOT L8

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L11 133043 S L4  
L12 28266 S L5  
L13 62118 S L8  
L14 393870 S L9  
L15 567105 S L10 OR L11 OR L12 OR L13 OR L14  
L16 28081 S L15 (L) DEV/RL  
L17 2253 S L16 (L) (LCD OR LIQUID(A) CRYSTAL)  
L18 1874 S L17 AND PHOTOG?/SC  
L19 1 S L18 AND L1  
L20 106 S L18 AND PANEL?  
L21 47 S L20 AND SUBSTRAT?  
L22 1 S L21 AND L1  
SEL L21 HIT RN 1-  
L23 13 S L20 AND (CROSS(A) LINK? OR CROSSLINK?)  
L24 52 S L21 OR L23  
SEL HIT RN 1-

=&gt; d que 124

L3 53512 SEA FILE=REGISTRY ABB=ON PLU=ON PI/PCT  
L4 83799 SEA FILE=REGISTRY ABB=ON PLU=ON PA/PCT  
L5 18207 SEA FILE=REGISTRY ABB=ON PLU=ON PC/PCT  
L6 315219 SEA FILE=REGISTRY ABB=ON PLU=ON PACR/PCT  
L7 315219 SEA FILE=REGISTRY ABB=ON PLU=ON L6 OR L6  
L8 150000 SEA FILE=REGISTRY RAN=(162266-87-7,) ABB=ON PLU=ON  
L6 OR L6  
L9 165219 SEA FILE=REGISTRY ABB=ON PLU=ON L7 NOT L8  
L10 35618 SEA FILE=HCAPLUS ABB=ON PLU=ON L3  
L11 133043 SEA FILE=HCAPLUS ABB=ON PLU=ON L4  
L12 28266 SEA FILE=HCAPLUS ABB=ON PLU=ON L5  
L13 62118 SEA FILE=HCAPLUS ABB=ON PLU=ON L8  
L14 393870 SEA FILE=HCAPLUS ABB=ON PLU=ON L9  
L15 567105 SEA FILE=HCAPLUS ABB=ON PLU=ON L10 OR L11 OR L12 OR  
L13 OR L14  
L16 28081 SEA FILE=HCAPLUS ABB=ON PLU=ON L15 (L) DEV/RL  
L17 2253 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 (L) (LCD OR  
LIQUID(A) CRYSTAL)  
L18 1874 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND PHOTOG?/SC

L20 106 SEA FILE=HCAPLUS ABB=ON PLU=ON L18 AND PANEL?  
 L21 47 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND SUBSTRAT?  
 L23 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND (CROSS(A) LINK?  
 OR CROSSLINK?)  
 L24 52 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 OR L23

=> fil hcap  
 FILE 'HCAPLUS' ENTERED AT 11:22:09 ON 22 NOV 2005

=> d l24 1-52 ibib abs hitstr hitind

L24 ANSWER 1 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:1129646 HCAPLUS  
 DOCUMENT NUMBER: 143:376665  
 TITLE: Photosensitive polymer compositions for  
 forming spacers on substrates of  
 liquid crystal displays, and color filters  
 having spacers  
 INVENTOR(S): Kitazawa, Kazushige; Ito, Hiromitsu; Kataoka,  
 Hiroyuki; Mekata, Hideyuki; Nakano, Yoshihiro;  
 Momomoto, Megumi  
 PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan; Osaka Yuki  
 Kagaku Kogyo Co., Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005292270	A2	20051020	JP 2004-104069	2004 0331
PRIORITY APPLN. INFO.:			JP 2004-104069	2004 0331

AB The compns. contain alkali-soluble polymers, photopolymer. initiators,  
 and photopolymerizable monomers, wherein acrylic equivalent of the  
 alkali-soluble polymers (gram-weight of the polymers per 1 mol of  
 acrylic groups) is  $\leq 200$ . The compns. may further contain  
 fine particles with  $\leq 100$  nm d. Also claimed are color  
 filters (formed on transparent substrates) having  
 patternwise formed spacers made from the compns. Preferably, the  
 spacers show prescribed elastic deformation and small plastic  
 deformation irreversible deformation so as to keep a uniform cell  
 gap regardless of the size of the LCD panels.

IT 866354-05-4P  
 (alkali-soluble binder; in photosensitive polymer compns. for  
 forming spacers on substrate of LCD, and  
 color filter having spacers)

RN 866354-05-4 HCAPLUS

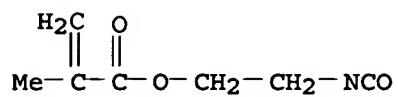
CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester, polymer with  
 oxiranylmethyl 2-methyl-2-propenoate homopolymer  
 4-cyclohexene-1,2-dicarboxylate 2-propenoate (9CI) (CA INDEX

NAME)

CM 1

CRN 30674-80-7

CMF C7 H9 N O3



CM 2

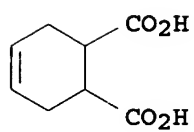
CRN 147013-10-3

CMF C8 H10 O4 . x (C7 H10 O3)x . x C3 H4 O2

CM 3

CRN 88-98-2

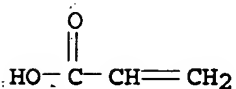
CMF C8 H10 O4



CM 4

CRN 79-10-7

CMF C3 H4 O2



CM 5

CRN 25067-05-4

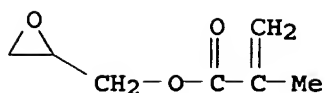
CMF (C7 H10 O3)x

CCI PMS

CM 6

CRN 106-91-2

CMF C7 H10 O3



IT 866354-06-5P 866354-07-6P 866394-08-3P  
(in spacers; photosensitive polymer compns. for forming spacers  
on substrate of LCD, and color filter  
having spacers)

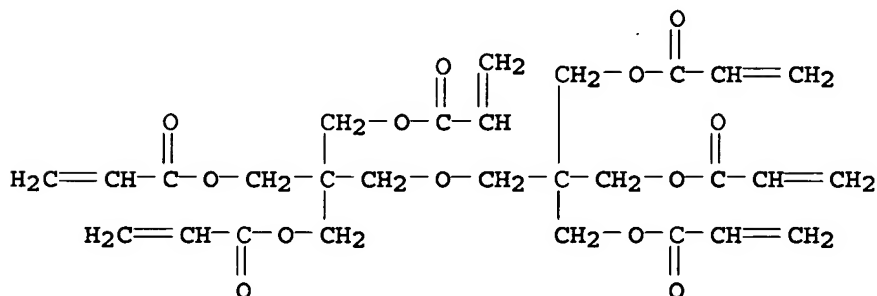
RN 866354-06-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, homopolymer,  
4-cyclohexene-1,2-dicarboxylate 2-propenoate, polymer with  
2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-  
propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-  
propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA  
INDEX NAME)

CM 1

CRN 29570-58-9

CMF C28 H34 O13



CM 2

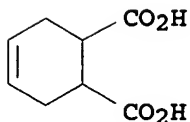
CRN 147013-10-3

CMF C8 H10 O4 . x (C7 H10 O3)x . x C3 H4 O2

CM 3

CRN 88-98-2

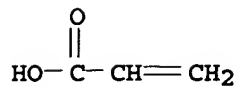
CMF C8 H10 O4



CM 4

CRN 79-10-7

CMF C3 H4 O2

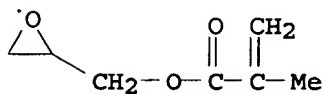


CM 5

CRN 25067-05-4  
 CMF (C7 H10 O3)x  
 CCI PMS

CM 6

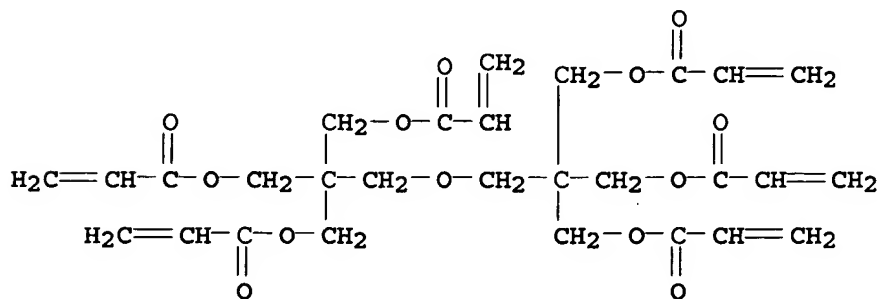
CRN 106-91-2  
 CMF C7 H10 O3



RN 866354-07-6 HCAPLUS  
 CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with EPPN 201 hydrogen 4-cyclohexene-1,2-dicarboxylate 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9  
 CMF C28 H34 O13



CM 2

CRN 176776-46-8  
 CMF C8 H10 O4 . x C3 H4 O2 . x Unspecified

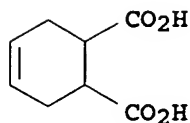
CM 3

CRN 81775-74-8  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

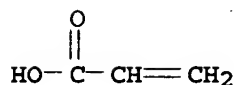
CM 4

CRN 88-98-2  
 CMF C8 H10 O4



CM 5

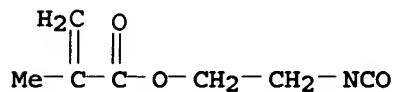
CRN 79-10-7  
 CMF C3 H4 O2



RN 866394-08-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate homopolymer 4-cyclohexene-1,2-dicarboxylate 2-propenoate, and 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

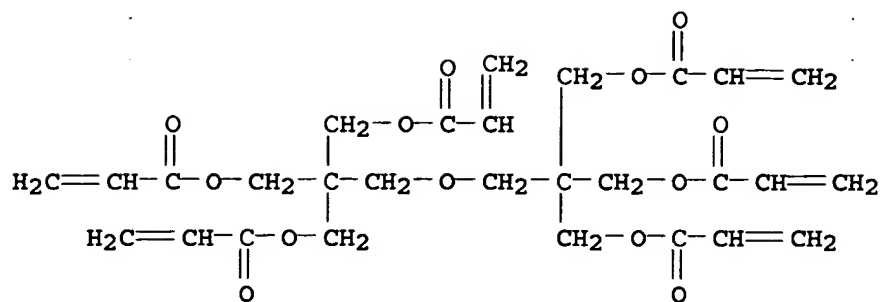
CM 1

CRN 30674-80-7  
 CMF C7 H9 N O3



CM 2

CRN 29570-58-9  
 CMF C28 H34 O13



CM 3

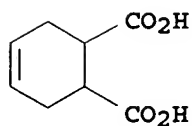
CRN 147013-10-3

$$\text{CMF} \quad \text{C8 H10 O4} \cdot x (\text{C7 H10 O3})x \cdot x \text{C3 H4 O2}$$

CM 4

CRN 88-98-2

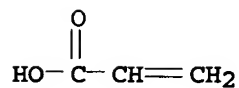
CMF C8 H10 O4



CM 5

CRN 79-10-7

CMF C3 H4 O2



CM . 6

CRN 25067-05-4

$$\text{CMF} \quad (\text{C7 H10 O3})_x$$

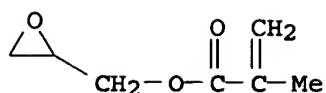
CCI PMS

CM 7

CRN 106-91-2

CMF C7 H10 O3





- IC ICM G02F001-1339  
ICS G02B005-20; G02F001-1335; G03F007-004; G03F007-038;  
G03F007-26
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73
- ST photosensitive acrylic polymer compn LCD **substrate**  
spacer; LCD color filter **substrate** spacer  
photopolymerizable compn; liq crystal display **substrate**  
spacer photosensitive acrylic polymer
- IT Phenolic resins, preparation  
(novolak, acrylic, in spacers; in photosensitive polymer  
compns. for forming spacers on **substrate** of LCD, and  
color filter having spacers)
- IT Photoimaging materials  
(photopolymerizable; photosensitive polymer compns. for forming  
spacers on **substrate** of LCD, and color filter having  
spacers)
- IT Liquid crystal displays  
Optical filters  
(photosensitive polymer compns. for forming spacers on  
**substrate** of LCD, and color filter having spacers)
- IT 866354-05-4P  
(alkali-soluble binder; in photosensitive polymer compns. for  
forming spacers on **substrate** of LCD, and  
color filter having spacers)
- IT 147013-10-3P 176776-46-8P  
(alkali-soluble binder; in photosensitive polymer compns. for  
forming spacers on **substrate** of LCD, and color filter  
having spacers)
- IT 7631-86-9, Silica, uses  
(fine particles; in photosensitive polymer compns. for forming  
spacers on **substrate** of LCD, and color filter having  
spacers)
- IT 29570-58-9, Dipentaerythritol hexaacrylate  
(in photosensitive polymer compns. for forming spacers on  
**substrate** of LCD, and color filter having spacers)
- IT 866354-06-5P 866354-07-6P 866394-08-3P  
(in spacers; photosensitive polymer compns. for forming spacers  
on **substrate** of LCD, and color filter  
having spacers)
- IT 164325-60-4, Irgacure 908  
(photopolymn. catalysts; in photosensitive polymer compns. for  
forming spacers on **substrate** of LCD, and color filter  
having spacers)

L24 ANSWER 2 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1129645 HCAPLUS

DOCUMENT NUMBER: 143:376664

TITLE: Photosensitive polymer compositions for  
forming spacers on **substrates** of  
liquid crystal displays, and color filters  
having spacers

INVENTOR(S): Kitazawa, Kazushige; Ito, Hiromitsu; Kataoka,

PATENT ASSIGNEE(S): Hiroyuki; Mekata, Hideyuki; Nakano, Nobuhiro;  
 Momomoto, Megumi  
 SOURCE: Toppan Printing Co., Ltd., Japan; Osaka Yuki  
 Kagaku Kogyo Co., Ltd.  
 Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005292269	A2	20051020	JP 2004-104068	2004 0331
PRIORITY APPLN. INFO.:				JP 2004-104068 2004 0331

AB The compns. contain alkali-soluble polymers, photopolymn. initiators,  
 and photopolymerizable monomers, wherein acrylic equivalent of the  
 whole compns. (gram-weight of photosensitive polymer compns. per 1  
 mol of acrylic groups) is  $\leq 200$ . The compns. may further  
 contain fine particles with  $\leq 100$  nm d. Also claimed are  
 color filters (formed on transparent substrates) having  
 patternwise formed spacers made from the compns. Preferably, the  
 spacers show prescribed elastic deformation and small plastic  
 deformation irreversible deformation so as to keep a uniform cell  
 gap regardless of the size of the LCD panels.

IT 42120-80-9P 866354-05-4P  
 (alkali-soluble binder; in photosensitive polymer compns. for  
 forming spacers on substrate of LCD, and  
 color filter having spacers)

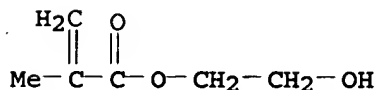
RN 42120-80-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with butyl  
 2-methyl-2-propenoate and 2-hydroxyethyl 2-methyl-2-propenoate  
 (9CI) (CA INDEX NAME)

CM 1

CRN 868-77-9

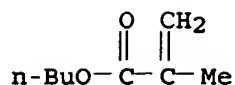
CMF C6 H10 O3



CM 2

CRN 97-88-1

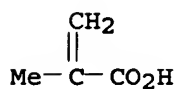
CMF C8 H14 O2



CM 3

CRN 79-41-4

CMF C4 H6 O2



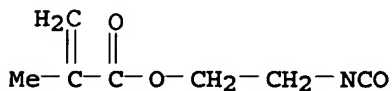
RN 866354-05-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester, polymer with  
oxiranylmethyl 2-methyl-2-propenoate homopolymer  
4-cyclohexene-1,2-dicarboxylate 2-propenoate (9CI) (CA INDEX  
NAME)

CM 1

CRN 30674-80-7

CMF C7 H9 N O3



CM 2

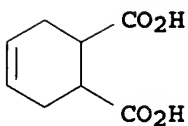
CRN 147013-10-3

CMF C8 H10 O4 . x (C7 H10 O3)x . x C3 H4 O2

CM 3

CRN 88-98-2

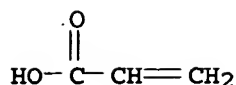
CMF C8 H10 O4



CM 4

CRN 79-10-7

CMF C3 H4 O2

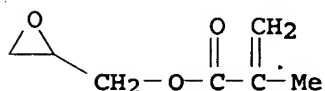


CM 5

CRN 25067-05-4  
 CMF (C7 H10 O3)x  
 CCI PMS

CM 6

CRN 106-91-2  
 CMF C7 H10 O3



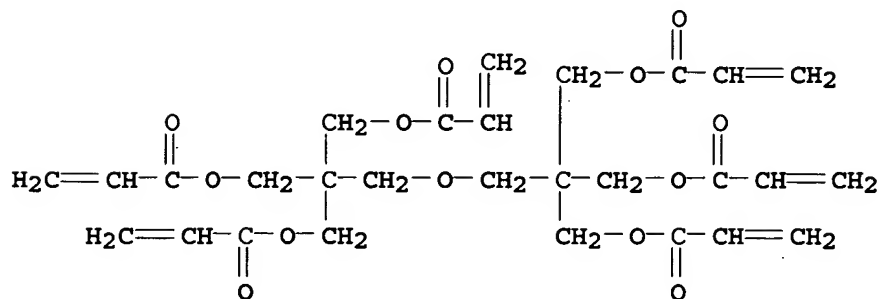
IT 67653-78-5P, Dipentaerythritol hexaacrylate homopolymer  
 866354-06-5P 866354-07-6P 866394-08-3P  
 (in spacers; photosensitive polymer compns. for forming spacers  
 on substrate of LCD, and color filter  
 having spacers)

RN 67653-78-5 HCAPLUS

CN 2-Propenoic acid, 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9  
 CMF C28 H34 O13



RN 866354-06-5 HCAPLUS

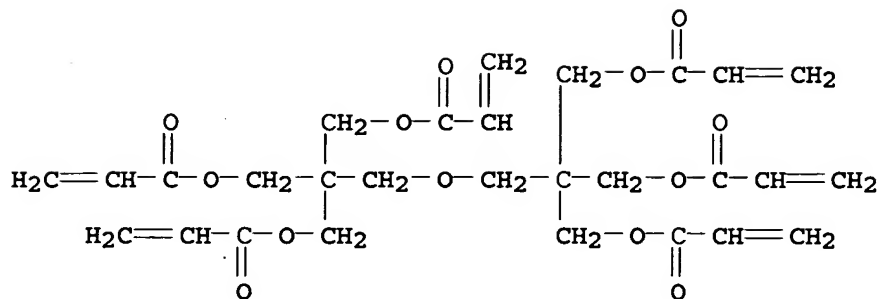
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, homopolymer,  
 4-cyclohexene-1,2-dicarboxylate 2-propenoate, polymer with  
 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA

## INDEX NAME)

CM 1

CRN 29570-58-9

CMF C28 H34 O13



CM 2

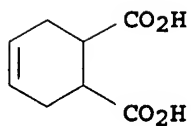
CRN 147013-10-3

CMF C8 H10 O4 . x (C7 H10 O3)x . x C3 H4 O2

CM 3

CRN 88-98-2

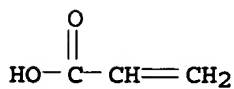
CMF C8 H10 O4



CM 4

CRN 79-10-7

CMF C3 H4 O2



CM 5

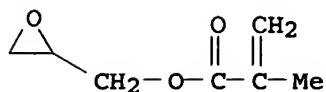
CRN 25067-05-4

CMF (C7 H10 O3)x

CCI PMS

CM 6

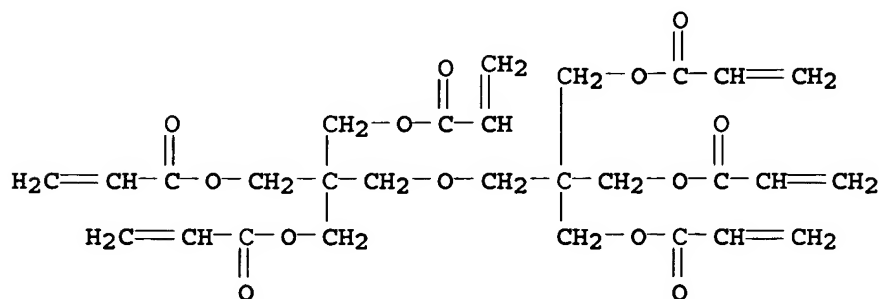
CRN 106-91-2  
CMF C7 H10 O3



RN 866354-07-6 HCAPLUS  
CN 2-Propenoic acid, 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with EPPN 201 hydrogen 4-cyclohexene-1,2-dicarboxylate 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9  
CMF C28 H34 O13



CM 2

CRN 176776-46-8  
CMF C8 H10 O4 . x C3 H4 O2 . x Unspecified

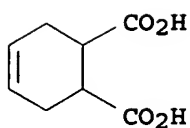
CM 3

CRN 81775-74-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

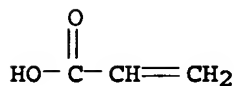
CM 4

CRN 88-98-2  
CMF C8 H10 O4



CM 5

CRN 79-10-7  
CMF C3 H4 O2

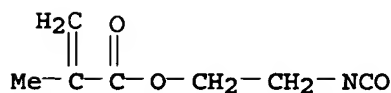


RN 866394-08-3 HCAPLUS

CN. 2-Propenoic acid, 2-methyl-, 2-isocyanatoethyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate homopolymer 4-cyclohexene-1,2-dicarboxylate 2-propenoate, and 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

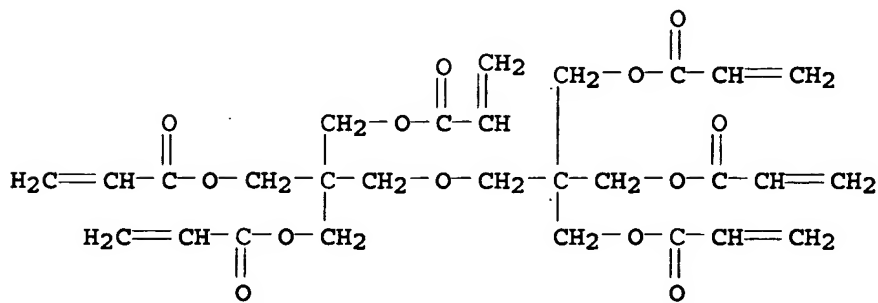
CM 1

CRN 30674-80-7  
CMF C7 H9 N O3



CM 2

CRN 29570-58-9  
CMF C28 H34 O13



CM 3

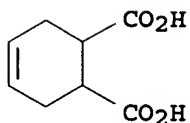
CRN 147013-10-3

CMF C8 H10 O4 . x (C7 H10 O3)x . x C3 H4 O2

CM 4

CRN 88-98-2

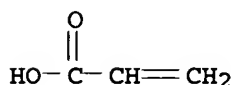
CMF C8 H10 O4



CM 5

CRN 79-10-7

CMF C3 H4 O2



CM 6

CRN 25067-05-4

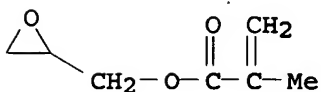
CMF (C7 H10 O3)x

CCI PMS

CM 7

CRN 106-91-2

CMF C7 H10 O3



IC ICM G03F007-038

ICS G02B005-20; G03F007-004; G03F007-26

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73

ST photosensitive acrylic polymer compn LCD **substrate**  
spacer; LCD color filter **substrate** spacer  
photopolymerizable compn; liq crystal display **substrate**  
spacer photosensitive polymer compn

IT Phenolic resins, preparation  
(novolak, acrylic, in spacers; in photosensitive polymer)



- compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT Photoimaging materials  
(photopolymerizable; photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT Liquid crystal displays  
Optical filters  
(photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 42120-80-9P 866354-05-4P  
(alkali-soluble binder; in photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 147013-10-3P 176776-46-8P  
(alkali-soluble binder; in photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 7631-86-9, Silica, uses  
(fine particles; in photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 29570-58-9, Dipentaerythritol hexaacrylate  
(in photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 67653-78-5P, Dipentaerythritol hexaacrylate homopolymer  
866354-06-5P 866354-07-6P 866394-08-3P  
(in spacers; photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)
- IT 164325-60-4, Irgacure 908  
(photopolymer. catalysts; in photosensitive polymer compns. for forming spacers on substrate of LCD, and color filter having spacers)

L24 ANSWER 3 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1129639 HCAPLUS

DOCUMENT NUMBER: 143:396471

TITLE: Active matrix-type liquid crystal panel and liquid crystal color display using it

INVENTOR(S): Hama, Hideo; Okabe, Masato; Saruwatari, Naoko

PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005292234	A2	20051020	JP 2004-103611	

2004  
0331

PRIORITY APPLN. INFO.: JP 2004-103611

2004  
0331

AB The panel includes ferroelec. liquid crystals showing phase transition of liquid isotropic-cholesteric-chiral smectic C between a pair of substrates, wherein the 1st substrate is aligned in a direction and at least part of the 2nd substrate is aligned in a different direction from the 1st substrate, and the liquid crystals show homogeneous monostable mol. orientation in the chiral smectic C phase under no voltage application state. The display has the panel, LED back lights, TFTs, and driving circuits. The display provides high-quality color images with high response even without voltage application or UV irradiation

IT 127538-64-1, AL 1254  
(AL 1254, alignment film; active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

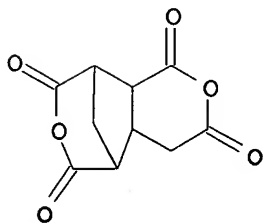
RN 127538-64-1 HCAPLUS

CN 5,9-Methano-1H-pyrano[3,4-d]oxepin-1,3,6,8(4H)-tetrone, tetrahydro-, polymer with 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 6053-46-9

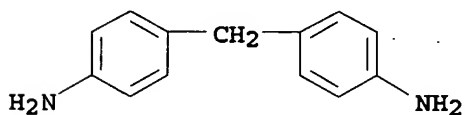
CMF C10 H8 O6



CM 2

CRN 101-77-9

CMF C13 H14 N2



IT 24968-99-8, Staralign 2110  
(active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

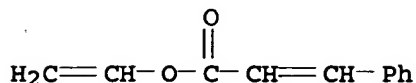
RN 24968-99-8 HCAPLUS

CN 2-Propenoic acid, 3-phenyl-, ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 3098-92-8

CMF C11 H10 O2



IC ICM G02F001-1337

ICS G02F001-141

CC 74-13 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

ST ferroelec liq crystal panel active matrix; color display

liq crystal panel active matrix

IT Liquid crystal displays

(active matrix liquid crystal panel using ferroelec.  
liquid crystals and aligned substrates for high-quality  
color images without voltage application or UV irradiation)

IT Polyimides, uses

(alignment film; active matrix liquid crystal panel  
using ferroelec. liquid crystals and aligned substrates  
for high-quality color images without voltage application or UV  
irradiation)

IT 127538-64-1, AL 1254

(AL 1254, alignment film; active matrix liquid  
crystal panel using ferroelec. liquid  
crystals and aligned substrates for  
high-quality color images without voltage application or UV  
irradiation)

IT 24968-99-8, Staralign 2110 375380-16-8, R 2301

866927-28-8, Staralign 2100

(active matrix liquid crystal panel  
using ferroelec. liquid crystals and aligned  
substrates for high-quality color images without  
voltage application or UV irradiation)

L24 ANSWER 4 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1129638 HCAPLUS

DOCUMENT NUMBER: 143:396470

TITLE: Active matrix-type liquid crystal  
panel and liquid crystal color display  
using it

INVENTOR(S): Hama, Hideo

PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005292231	A2	20051020	JP 2004-103543	2004 0331

PRIORITY APPLN. INFO.:

JP 2004-103543

2004

0331

AB The panel includes ferroelec. liquid crystals showing phase transition of liquid isotropic-cholesteric-smectic A-chiral smectic C between a pair of substrates, wherein the 1st substrate is aligned in a direction and at least part of the 2nd substrate is aligned in a different direction from the 1st substrate, and the liquid crystals show homogeneous monostable mol. orientation in the chiral smectic C phase under no voltage application state, and the orientation direction tilts from the alignment direction of the 1st substrate. The display has the panel, LED back lights, TFTs, and driving circuits. The display provides high-quality color images with high response even without voltage application or UV irradiation

IT 127538-64-1, AL 1254

(AL 1254, alignment film; active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

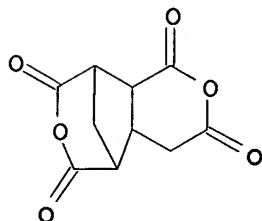
RN 127538-64-1 HCAPLUS

CN 5,9-Methano-1H-pyrano[3,4-d]oxepin-1,3,6,8(4H)-tetrone, tetrahydro-, polymer with 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 6053-46-9

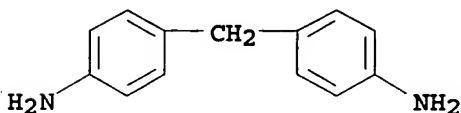
CMF C10 H8 O6



CM 2

CRN 101-77-9

CMF C13 H14 N2



IT 24968-99-8, Staralign 2110

(active matrix liquid crystal panel using ferroelec. liquid crystals and aligned

substrates for high-quality color images without voltage application or UV irradiation)

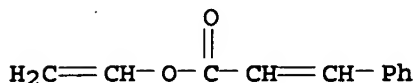
RN 24968-99-8 HCAPLUS

CN 2-Propenoic acid, 3-phenyl-, ethenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 3098-92-8

CMF C11 H10 O2



IC ICM G02F001-1337

ICS G02F001-133; G02F001-141; G09G003-20; G09G003-34; G09G003-36

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST ferroelec liq crystal panel active matrix; color display  
liq crystal panel active matrix

IT Liquid crystal displays

(active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

IT Polyimides, uses

(alignment film; active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

IT 127538-64-1, AL 1254

(AL 1254, alignment film; active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

IT 24968-99-8, Staralign 2110 219944-07-7, Felix M 4851

866927-28-8, Staralign 2100

(active matrix liquid crystal panel using ferroelec. liquid crystals and aligned substrates for high-quality color images without voltage application or UV irradiation)

L24 ANSWER 5 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1045163 HCAPLUS

DOCUMENT NUMBER: 143:315578

TITLE: Photocurable resin compositions, out gas-reduced sealants therefrom, liquid crystal display panels sealed therewith, and manufacture thereof

INVENTOR(S): Takeuchi, Fumito; Miyawaki, Takahisa; Ito, Kenji; Yashiro, Kenichi; Nagata, Katsura; Ito, Sota; Gomi, Shunichi; Ikeguchi, Taizo; Sasaki, Nobuo; Nakahara, Makoto

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan; Sharp Corp.

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

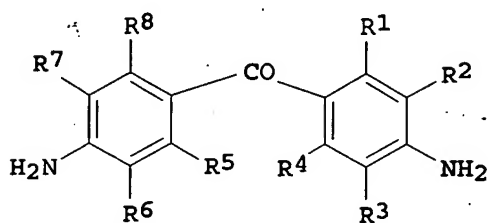
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005263987	A2	20050929	JP 2004-78976	2004 0318
PRIORITY APPLN. INFO.:			JP 2004-78976	2004 0318

GI



AB The compns. contain (A1) photosensitizers with Mn 400-3000 prepared by reaction of 4,4'-diaminobenzophenones I [R1-R8 = H, halo, C1-12 (cyclo)alkyl] and compds. having oxirane, thiirane, and/or (meth)acryloyl groups, (A2) radical photopolymer. initiators, and (B) (meth)acrylate esters and/or their oligomers. In preparation of LCD panels by liquid crystal dropping, sealants containing the above compns. and optionally (C) thermosetting resin compns. (e.g., epoxy resins and latent curing agents for them) are photocured (with UV or visible light with wavelength  $\geq 370$  nm) and then thermally cured.

IT 9011-14-7DP, Methyl methacrylate homopolymer, reaction products with 4,4'-diaminobenzophenone (oligomers, photosensitizers; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)

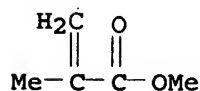
RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6

CMF C5 H8 O2



IT 92625-64-4P, Viscoat 300 homopolymer (photocurable resin compns. as out gas-reduced sealants for

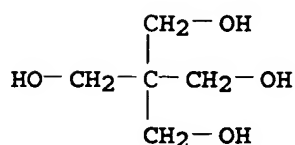
manufacturing of LCD panels)  
 RN 92625-64-4 HCAPLUS  
 CN 2-Propenoic acid, ester with 2,2-bis(hydroxymethyl)-1,3-propanediol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 56093-53-9  
 CMF C5 H12 O4 . x C3 H4 O2

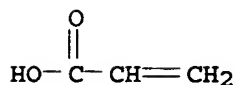
CM 2

CRN 115-77-5  
 CMF C5 H12 O4



CM 3

CRN 79-10-7  
 CMF C3 H4 O2



IC ICM C08F002-50  
 ICS C09K003-10; G02F001-1339  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 42  
 IT Phenolic resins, uses  
 (epoxy, novolak; photocurable resin compns. as out gas-reduced  
 sealants for manufacturing of LCD panels)  
 IT Polyoxyalkylenes, preparation  
 (oligomers, photosensitizers; photocurable resin compns. as out  
 gas-reduced sealants for manufacturing of LCD panels)  
 IT Liquid crystal displays  
 (panels; photocurable resin compns. as out  
 gas-reduced sealants for manufacturing of LCD panels)  
 IT Epoxy resins, uses  
 (phenolic, novolak; photocurable resin compns. as out  
 gas-reduced sealants for manufacturing of LCD panels)  
 IT Crosslinking  
 (photochem.; photocurable resin compns. as out gas-reduced  
 sealants for manufacturing of LCD panels)  
 IT Sealing compositions  
 (photocurable resin compns. as out gas-reduced sealants for  
 manufacturing of LCD panels)  
 IT Epoxy resins, preparation  
 (radical photopolymer. initiators; photocurable resin compns. as

- out gas-reduced sealants for manufacturing of LCD panels)
- IT **Crosslinking**  
(thermal; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT **Plastics, uses**  
(thermosetting; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 827-43-0, Curezol 2P4MZ 88122-32-1, Amicure VDH-J  
(latent epoxy resin-curing agents; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 9011-14-7DP, Methyl methacrylate homopolymer, reaction products with 4,4'-diaminobenzophenone 25265-27-4DP, Phenyl glycidyl ether homopolymer, 4,4'-diaminobenzophenone-initiated 25610-58-6DP, Butyl glycidyl ether homopolymer, 4,4'-diaminobenzophenone-initiated 29298-03-1DP, p-tert-Butylphenyl glycidyl ether homopolymer, 4,4'-diaminobenzophenone-initiated  
(oligomers, photosensitizers; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 92625-64-4P, Viscoat 300 homopolymer  
(photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 95-48-7D, o-Cresol, polymers 394692-62-7, EOCN 1020-75  
(photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 611-98-3DP, 4,4'-Diaminobenzophenone, reaction products with Me methacrylate oligomer  
(photosensitizers; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 864964-88-5P, Epikote YL 980 o-benzoylbenzoate  
(radical photopolymn. initiators; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)
- IT 90-64-2D, derivs.  
(radical photopolymn. initiators; photocurable resin compns. as out gas-reduced sealants for manufacturing of LCD panels)

L24 ANSWER 6 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:902306 HCAPLUS

DOCUMENT NUMBER: 143:257124

TITLE: Liquid crystal panels causing less color unevenness, anisotropic conductors, and sealants therefor

INVENTOR(S): Watanabe, Takashi; Oyama, Yuichi; Yamamoto, Takuya; Tanigawa, Mitsuru; Hiratsuka, Shuichi

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2005227366	A2	20050825	JP 2004-33794	2004 0210



PRIORITY APPLN. INFO.:

JP 2004-33794

2004  
0210

AB The sealants contain tertiary amino-containing curable resins (e.g., epoxy or acrylic resins), thereby generating no free catalyst components that might contaminate liquid crystal layers. The conductors comprise the sealants and electroconductive microparticles.

IT 862800-94-0P, Amicure VDH-Ebecryl 3700-Tetrad X copolymer  
862800-95-1P

(sealants; liquid crystal panels  
sealed with self-catalytic curable resins and showing good  
color uniformity)

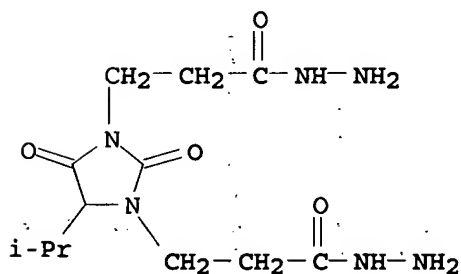
RN 862800-94-0 HCAPLUS

CN 1,3-Imidazolidinedipropenoic acid, 4-(1-methylethyl)-2,5-dioxo-,  
dihydrazide, polymer with (1-methylethylidene)bis[4,1-  
phenyleneoxy(2-hydroxy-3,1-propanediyl)] di-2-propenoate and  
N,N,N',N'-tetrakis(oxiranylmethyl)-1,3-benzenedimethanamine (9CI)  
(CA INDEX NAME)

CM 1

CRN 88122-32-1

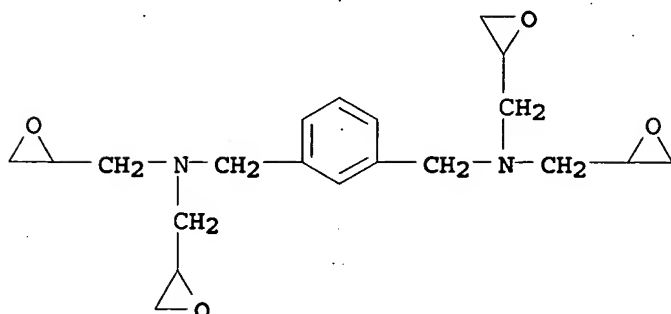
CMF C12 H22 N6 O4



CM 2

CRN 63738-22-7

CMF C20 H28 N2 O4

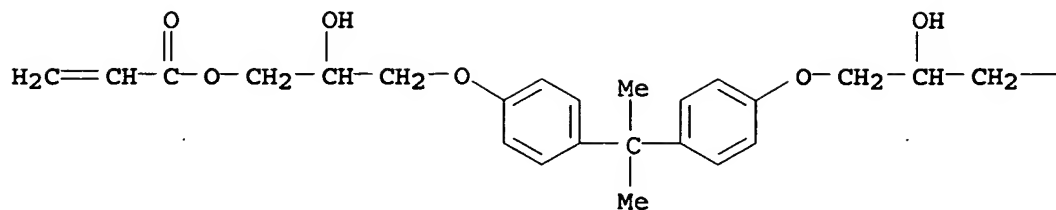


CM 3

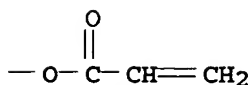
CRN 4687-94-9

CMF C27 H32 O8

PAGE 1-A



PAGE 1-B



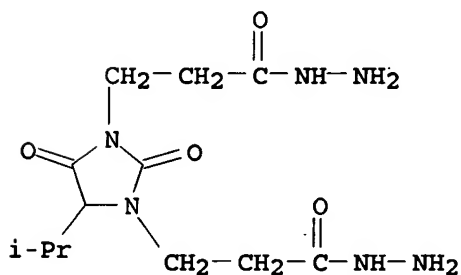
RN 862800-95-1 HCAPLUS

CN 1,3-Imidazolidinedipropionic acid, 4-(1-methylethyl)-2,5-dioxo-, dihydrazide, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and (1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 88122-32-1

CMF C12 H22 N6 O4

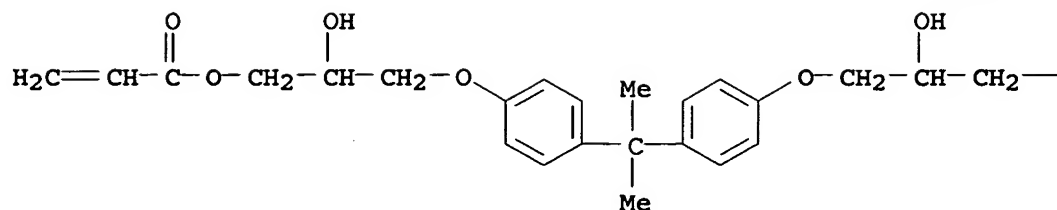


CM 2

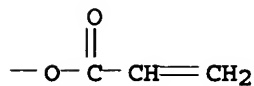
CRN 4687-94-9

CMF C27 H32 O8

PAGE 1-A

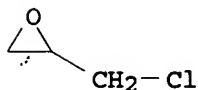


PAGE 1-B



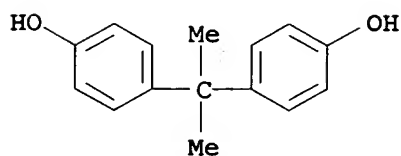
CM 3

CRN 106-89-8  
CMF C3 H5 Cl O



CM 4

CRN 80-05-7  
CMF C15 H16 O2



- IC ICM G02F001-1339  
ICS C08F020-34; C08G059-20  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST liq crystal panel self catalytic sealant;  
tetraglycidylxylylenediamine LCD sealant contamination prevention;  
display color uniformity liq crystal contamination prevention  
IT Epoxy resins, uses  
(acrylic, sealants; liquid crystal panels sealed with  
self-catalytic curable resins and showing good color  
uniformity)  
IT Interconnections, electric  
(anisotropic; liquid crystal panels sealed with

- self-catalytic curable resins and showing good color uniformity)
- IT Epoxy resins, preparation  
(cured, sealants; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT Acrylic polymers, uses  
(epoxy, sealants; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT Liquid crystal displays  
Sealing compositions  
(liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT Acrylic polymers, uses  
(sealants; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT 7440-57-5, Gold, uses  
(crosslinked styrene beads metalized with, conductivity-imparting agents; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT 9003-70-7, Styrene-divinylbenzene copolymer  
(gold-coated, conductivity-imparting agents, Micropearl AU; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT 863207-57-2, JC 5004LA  
(liquid crystal layers; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)
- IT 862800-94-0P, Amicure VDH-Ebecryl 3700-Tetrad X copolymer  
862800-95-1P  
(sealants; liquid crystal panels sealed with self-catalytic curable resins and showing good color uniformity)

L24 ANSWER 7 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:890637 HCAPLUS

DOCUMENT NUMBER: 143:257123

TITLE: Manufacture of columnar spacers for liquid crystal displays and thermosetting resin compositions therefor

INVENTOR(S): Suezaki, Yuzuru

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005227395	A2	20050825	JP 2004-34133	2004 0210
PRIORITY APPLN. INFO.:				2004
				JP 2004-34133

0210

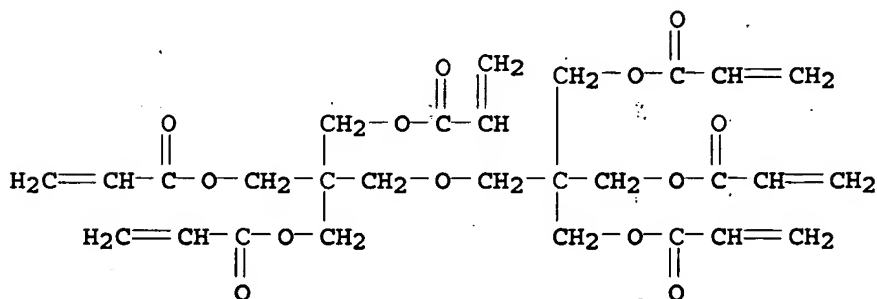
AB The compns. contain  $\geq 2$ -unsatd.-bond-containing compds., reactive functional group-containing alkali-soluble polymers, crosslinking agents undergoing thermal crosslinking with the polymers, and photopolymer initiators. The compns. are pasted on glass substrates, irradiated through photomasks, developed with alkalis, and baked to be crosslinked and form columnar, fixed spacers that might not disorder liquid crystal mols. Liquid crystal panels having the spacers and causing less disorder-derived color unevenness, are further claimed.

IT 67653-78-5P, Light Acrylate DPE 6A homopolymer  
 862801-17-0P, Butyl methacrylate-Duranate  
 17B60PX-methacrylic acid-methyl methacrylate copolymer  
 862801-18-1P, Butyl methacrylate-Duranate E  
 402B80T-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate copolymer 863207-88-9P, Light Acrylate DPE 6A-Light Acrylate 6EGA copolymer  
 (spacers; manufacture of LCD columnar spacers from heat-crosslinkable photosensitive resin compns.)

RN 67653-78-5 HCAPLUS  
 CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 29570-58-9  
 CMF C28 H34 O13



RN 862801-17-0 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-methyl-2-propenoate, Duranate 17B60PX and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

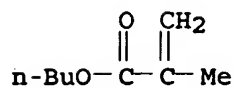
CM 1

CRN 199876-71-6  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

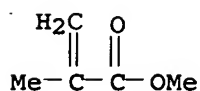
CM 2

CRN 97-88-1  
CMF C8 H14 O2



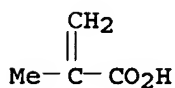
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

CRN 79-41-4  
CMF C4 H6 O2



RN 862801-18-1 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, polymer with butyl  
2-methyl-2-propenoate, Duranate E 402B80T, 2-hydroxyethyl  
2-methyl-2-propenoate and methyl 2-methyl-2-propenoate (9CI). (CA  
INDEX NAME)

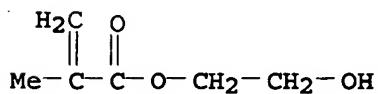
CM 1

CRN 182761-20-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

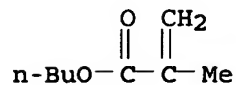
CRN 868-77-9  
CMF C6 H10 O3



CM 3

CRN 97-88-1

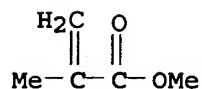
CMF C8 H14 O2



CM 4

CRN 80-62-6

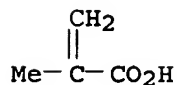
CMF C5 H8 O2



CM 5

CRN 79-41-4

CMF C4 H6 O2



RN 863207-88-9 HCAPLUS

CN 2-Propenoic acid, 2-[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with Light Acrylate 6EGA (9CI) (CA INDEX NAME)

CM 1

CRN 863207-87-8

CMF Unspecified

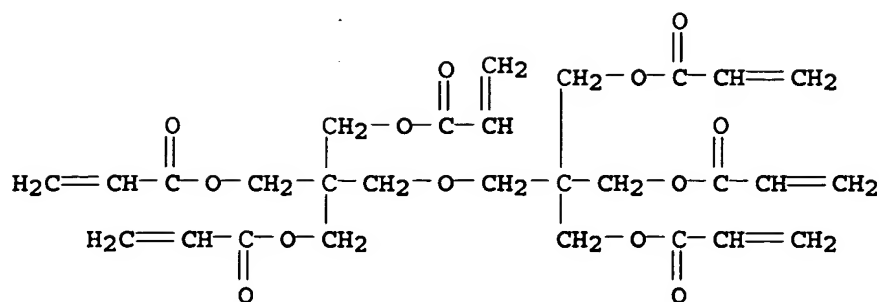
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 29570-58-9

CMF C28 H34 O13



IC ICN G02F001-1339  
ICS C08F002-44; C08F265-00; G03F007-004; G03F007-027;  
G03F007-038; G03F007-40

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

ST LCD columnar spacer thermosetting resin product; liq crystal  
disordering prevention LCD spacer; heat crosslinkable  
photopatterned columnar LCD spacer

IT Liquid crystal displays  
(columnar spacers for; manufacture of LCD columnar spacers from  
heat-crosslinkable photosensitive resin compns.)

IT Crosslinking agents  
(latent, blocked; manufacture of LCD columnar spacers from heat-  
crosslinkable photosensitive resin compns.)

IT Light-sensitive materials  
(manufacture of LCD columnar spacers from heat-crosslinkable  
photosensitive resin compns.)

IT Polymerization catalysts  
(photopolymer.; manufacture of LCD columnar spacers from heat-  
crosslinkable photosensitive resin compns.)

IT 863207-57-2, JC 5004LA  
(liquid crystal layers; manufacture of LCD columnar spacers from heat-  
crosslinkable photosensitive resin compns.)

IT 67653-78-5P, Light Acrylate DPE 6A homopolymer  
862801-17-0P, Butyl methacrylate-Duranate  
17B60PX-methacrylic acid-methyl methacrylate copolymer  
862801-18-1P, Butyl methacrylate-Duranate E  
402B80T-2-hydroxyethyl methacrylate-methacrylic acid-methyl  
methacrylate copolymer 863207-88-9P, Light Acrylate DPE  
6A-Light Acrylate 6EGA copolymer  
(spacers; manufacture of LCD columnar spacers from heat-  
crosslinkable photosensitive resin compns.)

L24 ANSWER 8 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:666038 HCAPLUS

DOCUMENT NUMBER: 143:163217

**TITLE:** Re-releasable double-stick pressure-sensitive adhesive tapes for liquid crystal display (LCD) modules

INVENTOR(S) : Yamagami, Akira; Tanabe, Kosuke; Nakamura, Ryuichi

PATENT ASSIGNEE(S) : Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent



LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005200498	A2	20050728	JP 2004-6666	2004 0114

PRIORITY APPLN. INFO.:

JP 2004-6666

2004  
0114

AB The tapes, used between LCD panels and backlight housings, comprise (A) substrates, (B) pressure-sensitive adhesive layers on one side, and (C) pressure-sensitive adhesive layer on the other side, satisfying adhesion strength of B to LCD panels 0.05-1 N/20-mm, adhesion strength of C to backlight housings 5-25 N/20-mm, and abrasion resistance parameter of B  $\leq 0.05$ . The tapes show good processability and antisoiling property, and are useful for LCD panel repair process.

IT 437767-99-2P, Acrylic acid-butyl acrylate-Coronate L 45-2-ethylhexyl acrylate- $\beta$ -hydroxyethyl acrylate copolymer 604767-42-2P 859520-01-7P 859520-02-8P (pressure-sensitive adhesive; re-releasable double-stick pressure-sensitive adhesive tapes for liquid crystal display (LCD) modules)

RN 437767-99-2 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate, Coronate L 45, 2-ethylhexyl 2-propenoate and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 133515-98-7

CMF Unspecified

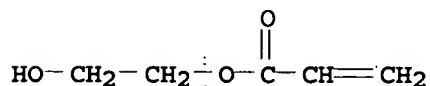
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 818-61-1

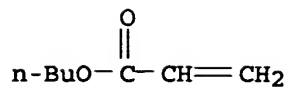
CMF C5 H8 O3



CM 3

CRN 141-32-2

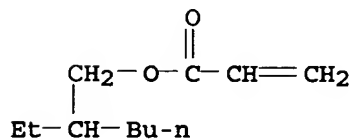
CMF C7 H12 O2



CM 4

CRN 103-11-7

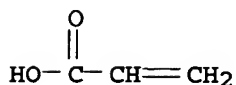
CMF C11 H20 O2



CM 5

CRN 79-10-7

CMF C3 H4 O2



RN 604767-42-2 HCAPLUS

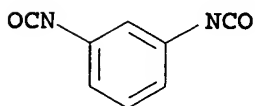
CM 2-Propenoic acid, polymer with butyl 2-propenoate,  
1,3-diisocyanatomethylbenzene, 2-ethylhexyl 2-propenoate,  
2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 2-hydroxyethyl  
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS

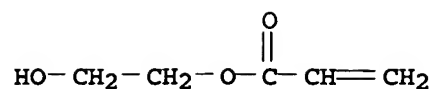


D1-Me

CM 2

CRN 818-61-1

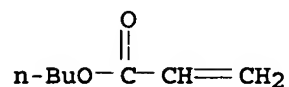
CMF C5 H8 O3



CM 3

CRN 141-32-2

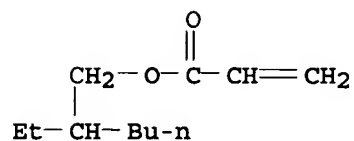
CMF C7 H12 O2



CM 4

CRN 103-11-7

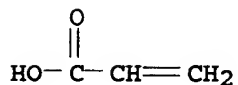
CMF C11 H20 O2



CM 5

CRN 79-10-7

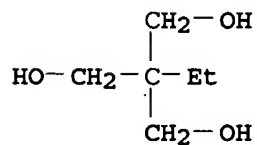
CMF C3 H4 O2



CM 6

CRN 77-99-6

CMF C6 H14 O3



RN 859520-01-7 HCAPLUS

CN 2-Propenoic acid, polymer with Coronate L 45, 2-ethylhexyl

2-propenoate, 2-hydroxyethyl 2-propenoate and 2-methoxyethyl  
2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 133515-98-7

CMF Unspecified

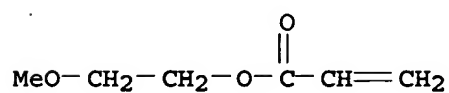
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 3121-61-7

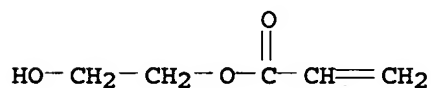
CMF C6 H10 O3



CM 3

CRN 818-61-1

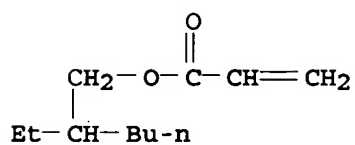
CMF C5 H8 O3



CM 4

CRN 103-11-7

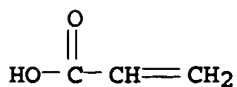
CMF C11 H20 O2



CM 5

CRN 79-10-7

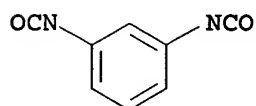
CMF C3 H4 O2



RN 859520-02-8 HCAPLUS  
 CN 2-Propenoic acid, polymer with 1,3-diisocyanatomethylbenzene,  
 2-ethylhexyl 2-propenoate, 2-ethyl-2-(hydroxymethyl)-1,3-  
 propanediol, 2-hydroxyethyl 2-propenoate and 2-methoxyethyl  
 2-propenoate (9CI) (CA INDEX NAME)

CM 1

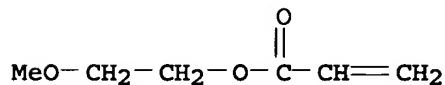
CRN 26471-62-5  
 CMF C9 H6 N2 O2  
 CCI IDS



D1- Me

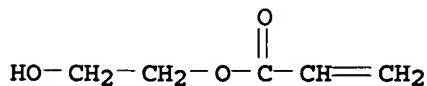
CM 2

CRN 3121-61-7  
 CMF C6 H10 O3



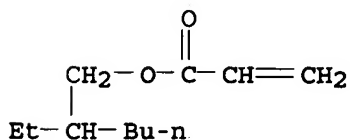
CM 3

CRN 818-61-1  
 CMF C5 H8 O3

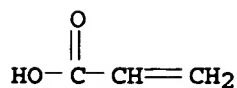


CM 4

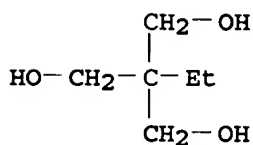
CRN 103-11-7  
 CMF C11 H20 O2



CM 5

CRN 79-10-7  
CMF C3 H4 O2

CM 6

CRN 77-99-6  
CMF C6 H14 O3

- IC ICM C09J007-02  
ICS C09J133-02; C09J133-06; C09J133-14; C09J201-00; G02F001-1335
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST releasable double stick pressure sensitive adhesive tape; acrylic  
ethylhexyl hydroxyethyl methoxyethyl polymer TDI  
trimethylolpropane; butyl acrylate ethylhexyl hydroxyethyl polymer  
adhesive LCD; vinyl acetate alc chloride polymer polyurethane  
substrate
- IT Inks  
(black, light-shielding layer in substrates;  
re-releasable double-stick pressure-sensitive adhesive tapes  
for liquid crystal display (LCD) modules)
- IT Light shields  
(substrates; re-releasable double-stick  
pressure-sensitive adhesive tapes for liquid crystal display  
(LCD) modules)
- IT 612066-46-3, Painashia CVL-SPR 805 Black  
(crosslinked, black ink; re-releasable double-stick  
pressure-sensitive adhesive tapes for liquid crystal display  
(LCD) modules)
- IT 131640-48-7, CVL Hardener 10  
(crosslinking agent; re-releasable double-stick  
pressure-sensitive adhesive tapes for liquid crystal display  
(LCD) modules)
- IT 437767-99-2P, Acrylic acid-butyl acrylate-Coronate L  
45-2-ethylhexyl acrylate-β-hydroxyethyl acrylate copolymer  
604767-42-2P 859520-01-7P 859520-02-8P  
(pressure-sensitive adhesive; re-releasable double-stick  
pressure-sensitive adhesive tapes for liquid  
crystal display (LCD) modules)

L24 ANSWER 9 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2005:569233 HCAPLUS  
 DOCUMENT NUMBER: 143:86828  
 TITLE: Laminated cushioning sheets showing good  
 visibility through them, manufacture thereof,  
 and displays equipped with them  
 INVENTOR(S): Sakata, Yoshimasa; Satake, Masayuki  
 PATENT ASSIGNEE(S): Nitto Denko Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005169821	A2	20050630	JP 2003-412663	2003 1211

PRIORITY APPLN. INFO.: JP 2003-412663  
 2003  
 1211

AB The sheets are manufactured by (i) coating resin sheets with flowable UV-curable resins to give layers (A), (ii) radiating fringe parts of A with UV, and (iii) laminating other resin sheets on A before or after ii. The layers A have modulus higher in the fringe parts than in center parts, according to polymerization degree. Polarizing plates may be laminated on the thinner one of the resin sheets. The sheets can be smoothly disposed between liquid crystal displays and touch panels or protective panels, without breaking.

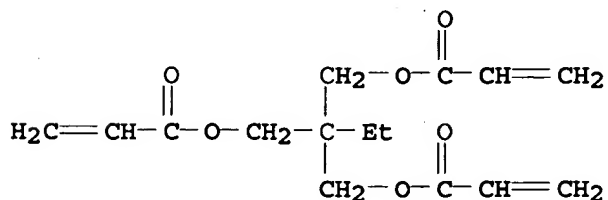
IT 754995-97-6P, 2-Ethylhexyl acrylate-4-hydroxybutyl acrylate-trimethylolpropane triacrylate copolymer (manufacture of laminated cushioning sheets showing good visibility through them for protecting touch panel-equipped liquid crystal displays)

RN 754995-97-6 HCAPLUS  
 CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, polymer with 2-ethylhexyl 2-propenoate and 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

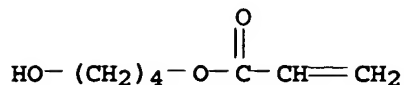
CM 1

CRN 15625-89-5

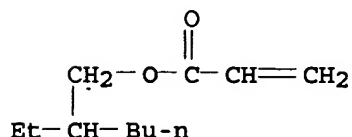
CMF C15 H20 O6



CM 2

CRN 2478-10-6  
CMF C7 H12 O3

CM 3

CRN 103-11-7  
CMF C11 H20 O2

- IC ICM B32B005-14  
ICS G02F001-1335; G02F001-1345; G06F003-033; G09F009-00
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST LCD touch panel cushioning sheet fringe modulus; partial  
UV curing acrylic cushioning sheet; laminated PET cushion sheet  
liq crystal display
- IT Cushions  
Lamination  
Liquid crystal displays  
(manufacture of laminated cushioning sheets showing good visibility  
through them for protecting touch panel-equipped liquid  
crystal displays)
- IT Polyesters, processes  
(manufacture of laminated cushioning sheets showing good visibility  
through them for protecting touch panel-equipped liquid  
crystal displays)
- IT Laminated plastics, uses  
(manufacture of laminated cushioning sheets showing good visibility  
through them for protecting touch panel-equipped liquid  
crystal displays)
- IT Crosslinking  
(photochem.; manufacture of laminated cushioning sheets showing good  
visibility through them for protecting touch panel  
-equipped liquid crystal displays)
- IT 754995-97-6P, 2-Ethylhexyl acrylate-4-hydroxybutyl  
acrylate-trimethylolpropane triacrylate copolymer  
(manufacture of laminated cushioning sheets showing good visibility  
through them for protecting touch panel-equipped  
liquid crystal displays)
- IT 25038-59-9, processes  
(manufacture of laminated cushioning sheets showing good visibility  
through them for protecting touch panel-equipped liquid  
crystal displays)



L24 ANSWER 10 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:256413 HCAPLUS

DOCUMENT NUMBER: 142:345264

TITLE: Transparent films, transparent conductive films therefrom, preparation thereof, and liquid crystal displays, organic EL displays, and touch panels therewith

INVENTOR(S): Okubo, Yasushi

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005076000	A2	20050324	JP 2003-311173	2003 0903

PRIORITY APPLN. INFO.:

JP 2003-311173

AB The transparent films, showing low birefringence and good heat resistance, contain polymer alloys consisting of cellulose esters and (crosslinked) macromol. compds. having groups reactive with residual OH in the cellulose esters, wherein the both may be crosslinked each other. The macromol. compds. may be prepared by curing of (A) polymerizable double bond-containing OH-reactive low-mol.-weight compds. and (B) plural polymerizable double bond-containing low-mol.-weight compds. [e.g., polyol (meth)acrylates]. The films are prepared by solvent cast method (and UV curing of B). Also claimed are transparent conductive films having metal oxide- or nitride-containing moistureproof layers on one side of the above films and transparent conductive layers thereon or on the other side. In manufacturing of the conductive films, the moistureproof layers and the transparent conductive layers are formed by plasma CVD under (near) atmospheric pressure, applying high-frequency voltage at 100 kHz to 150 MHz and 1-50 W/cm<sup>2</sup> between opposed electrodes. Liquid crystal displays, organic EL displays, and touch panels equipped with the transparent conductive films as substrates are also claimed.

IT 848412-41-9P

(crosslinked; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)

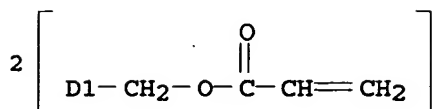
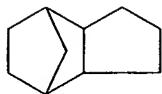
RN 848412-41-9 HCAPLUS

CN Cellulose, diacetate, polymer with 2,5-furandione and (octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene) di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

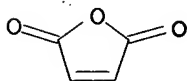
CRN 42594-17-2

CMF C18 H24 O4  
CCI IDS



CM 2

CRN 108-31-6  
CMF C4 H2 O3



CM 3

CRN 9035-69-2  
CMF C2 H4 O2 . 1/2 Unspecified

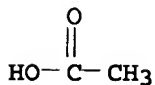
CM 4

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 64-19-7  
CMF C2 H4 O2



IT 848412-40-8P

(preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)

RN 848412-40-8 HCAPLUS

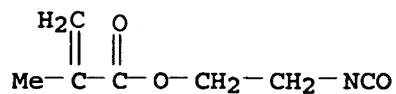
CN Cellulose, triacetate, polymer with 2-ethyl-2-[[[(1-oxo-2-

propenyl)oxy)methyl]-1,3-propanediyl di-2-propenoate and  
2-isocyanatoethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 30674-80-7

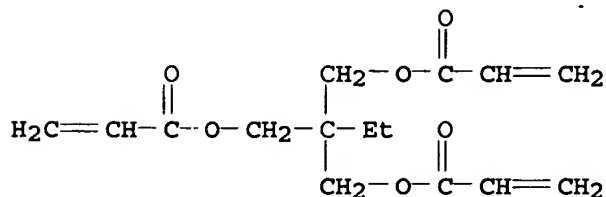
CMF C7 H9 N O3



CM 2

CRN 15625-89-5

CMF C15 H20 O6



CM 3

CRN 9012-09-3

CMF C2 H4 O2 . 1/3 Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

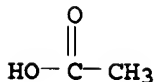
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 64-19-7

CMF C2 H4 O2



IT 848412-38-4P 848412-39-5P 848412-42-0P

(preparation of transparent films of cellulose esters and  
hydroxy-reactive macromols. and conductive films therefrom for  
LCD, organic EL displays, and touch panels)

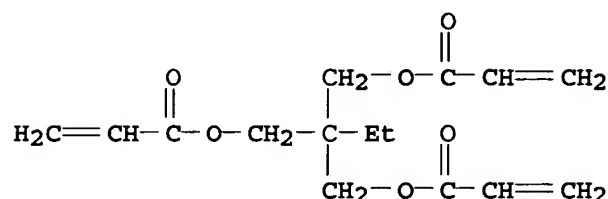
RN 848412-38-4 HCAPLUS

CN Cellulose, triacetate, polymer with 2-ethyl-2-[[1-(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

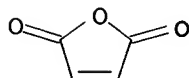
CMF C15 H20 O6



CM 2

CRN 108-31-6

CMF C4 H2 O3



CM 3

CRN 9012-09-3

CMF C2 H4 O2 . 1/3 Unspecified

CM 4

CRN 9004-34-6

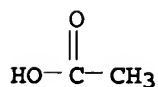
CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 64-19-7

C2H4O2

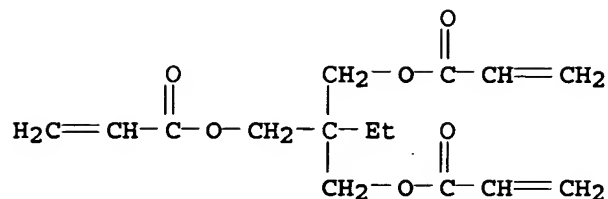
RN 848412-39-5 HCAPLUS

Cellulose, triacetate, polymer with 2-ethyl-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and 2-propenoic acid anhydride (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

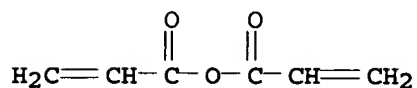
CMF C15 H20 O6



CM 2

CRN 2051-76-5

CMF C6 H6 O3



CM 3

CRN 9012-09-3

CMF C2 H4 O2 . 1/3 Unspecified

CM 4

CRN 9004-34-6

CMF Unspecified

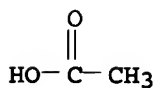
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 64-19-7

CMF C2 H4 O2

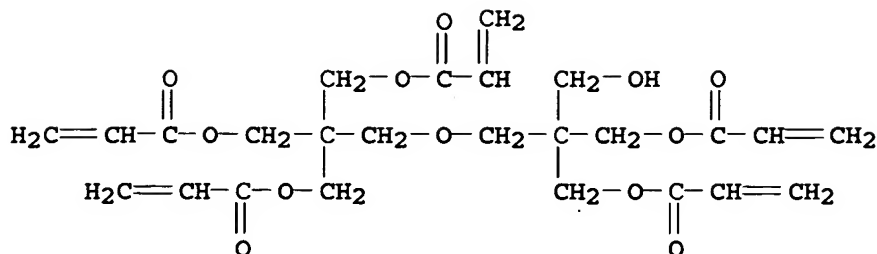


RN 848412-42-0 HCAPLUS

CN Cellulose, diacetate, polymer with 2-[[[3-hydroxy-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 60506-81-2  
CMF C25 H32 O12



CM 2

CRN 9035-69-2  
CMF C2 H4 O2 . 1/2 Unspecified

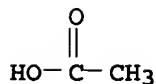
CM 3

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 64-19-7  
CMF C2 H4 O2



IC ICM C08G081-02  
ICS B32B007-02; B32B009-00; B32B023-20; C08F002-44; C08F251-02;  
C08J005-18; C08J007-00; C23C016-452; H01B005-14; C08L001-02

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

ST display **substrate** transparent conductive film heat  
resistance; LCD EL touch **panel substrate** film;  
cellulose acetate acrylic maleic anhydride **crosslinked**  
film; solvent cast acrylic cellulose transparent film; plasma CVD  
display transparent conductive film

IT Electroluminescent devices  
(displays; preparation of transparent films of cellulose esters and  
hydroxy-reactive macromols. and conductive films therefrom for  
LCD, organic EL displays, and touch **panels**)

IT Transparent films  
(elec. conductive; preparation of transparent films of cellulose  
esters and hydroxy-reactive macromols. and conductive films  
therefrom for LCD, organic EL displays, and touch **panels**)

- )
- IT Luminescent screens  
(electroluminescent; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels  
)
- IT Electric conductors  
(films, transparent; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels  
)
- IT Nitrides  
Oxides (inorganic), preparation  
(moistureproof layers; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels  
)
- IT Crosslinking  
(photochem.; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT Vapor deposition process  
(plasma, atmospheric; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT Liquid crystal displays  
Transparent films  
(preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT Crosslinking  
(radiochem.; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT Casting of polymeric materials  
(solvent; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT Optical imaging devices  
(touch panels; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT 848412-41-9P  
(crosslinked; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT 7440-31-5P, Tin, preparation  
(indium oxide doped with, transparent conductive layers; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels)
- IT 7631-86-9P, Silica, preparation  
(moistureproof layers; preparation of transparent films of cellulose esters and hydroxy-reactive macromols. and conductive films therefrom for LCD, organic EL displays, and touch panels  
)
- IT 848412-40-8P  
(preparation of transparent films of cellulose esters and

hydroxy-reactive macromols. and conductive films therefrom for  
LCD, organic EL displays, and touch panels)

IT 848412-36-2P 848412-37-3P 848412-38-4P  
848412-39-5P 848412-42-0P  
(preparation of transparent films of cellulose esters and  
hydroxy-reactive macromols. and conductive films therefrom for  
LCD, organic EL displays, and touch panels)

IT 1312-43-2P, Indium oxide  
(tin-doped, transparent conductive layers; preparation of  
transparent films of cellulose esters and hydroxy-reactive  
macromols. and conductive films therefrom for LCD, organic EL  
displays, and touch panels)

L24 ANSWER 11 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:158309 HCAPLUS

DOCUMENT NUMBER: 142:249450

TITLE: Birefringent layers having negative axial  
birefringence, their formation, polarizers,  
and liquid crystal panels therewith

INVENTOR(S): Akamatsu, Hideki; Sakamoto, Michie; Nishikoji,  
Yuichi; Murakami, Naho

PATENT ASSIGNEE(S): Nitto Denko Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005049589	A2	20050224	JP 2003-280947	2003 0728

PRIORITY APPLN. INFO.: JP 2003-280947

2003  
0728

AB In the process where solvent-based dispersions/solns. are applied  
on supports and freed of the solvents to form birefringent layers,  
the solvents are selected by their evaporation rate that are a dominant  
factor determining birefringence. After the solvent removal and  
solidification, the layers may be stretched or shrunk and released  
from the supports.

IT 129197-26-8P, 2,2-Bis(3,4-dicarboxyphenyl)hexafluoropropan  
e dianhydride-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl  
copolymer

(actual monomers; formation of polymer layers with controlled  
neg. axial birefringence for polarizers of liquid  
crystal panels)

RN 129197-26-8 HCAPLUS

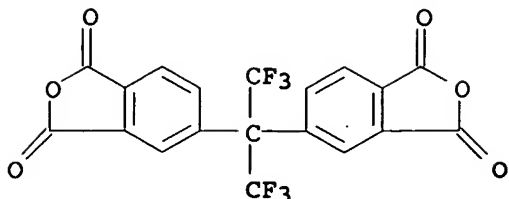
CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-  
(trifluoromethyl)ethylidene]bis-, polymer with  
2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diamine (9CI) (CA  
INDEX NAME)

CM 1

CRN 1107-00-2



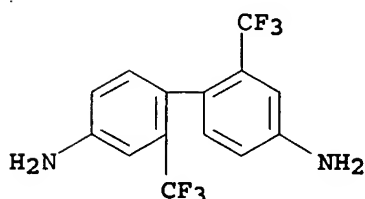
CMF C19 H6 F6 O6



CM 2

CRN 341-58-2

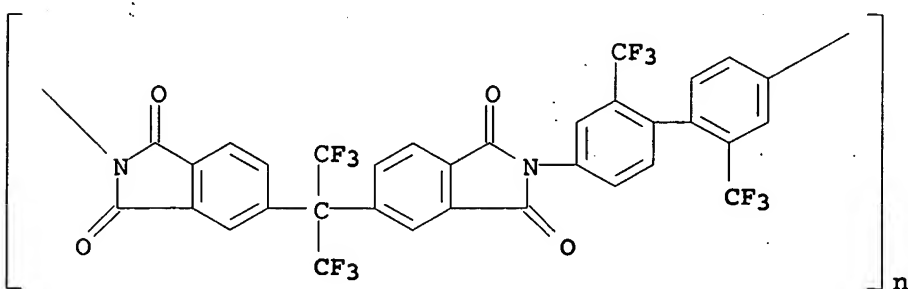
CMF C14 H10 F6 N2



IT 129219-42-7P, 2,2-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl copolymer, polyimide structure (formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)

RN 129219-42-7 HCAPLUS

CM Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl) [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] (1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl) [2,2'-bis(trifluoromethyl) [1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



IC ICM G02B005-30

ICS G02F001-1335; G02F001-1336

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73

IT Optical films

(birefringent; formation of polymer layers with controlled neg.

- axial birefringence for polarizers of liquid crystal panels)
- IT Polyimides, processes  
(fluorine-containing; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Birefringence  
Coating process  
Liquid crystal displays  
Solvents  
(formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyamides, processes  
Polyesters, processes  
Polyimides, processes  
(formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polarizers  
(multilayer; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyimides, processes  
(polyamide-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyimides, processes  
(polyester-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyketones  
(polyether-, fluorine-containing; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyketones  
(polyether-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Fluoropolymers, processes  
(polyether-polyketone-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Fluoropolymers, processes  
(polyimide-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyamides, processes  
Polyesters, processes  
(polyimide-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyethers, processes  
(polyketone-, fluorine-containing; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT Polyethers, processes  
(polyketone-; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT 213693-07-3  
(Polyaryletherketone A; formation of polymer layers with

- controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT 129197-26-8P, 2,2-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl copolymer  
(actual monomers; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT 67-64-1, Acetone, uses 108-88-3, Toluene, uses 110-82-7, Cyclohexane, uses 123-15-9 141-78-6, Ethyl acetate, uses (coating solvents; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT 129219-42-7P, 2,2-Bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl copolymer, polyimide sru  
(formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)
- IT 9012-09-3, Triacetylcellulose  
(supportive substrates; formation of polymer layers with controlled neg. axial birefringence for polarizers of liquid crystal panels)

L24 ANSWER 12 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:98288 HCAPLUS

DOCUMENT NUMBER: 142:208053

TITLE: Common transfer materials for manufacture of liquid crystal panels with improved reliability

INVENTOR(S): Ikeguchi, Taizo; Sasaki, Nobuo; Nakahara, Makoto; Shichiri, Tokushige; Oyama, Yuichi

PATENT ASSIGNEE(S): Sharp Corp., Japan; Sekisui Chemical Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005031519	A2	20050203	JP 2003-272465	2003 0709
PRIORITY APPLN. INFO.:				JP 2003-272465
				2003 0709

AB The common materials, used in common transfer electrodes formed between electrodes placed inside of pairs of substrates, comprise photo- and heat-curable polymer compns., electroconductive particles, and  $\leq 10$  parts (based on 100 parts of the polymer compns.) nonconductive fillers. The liquid crystal panels are manufactured by forming common transfer electrodes on  $\geq 1$  substrates, applying seals for forming sealed frames on  $\geq 1$  substrates, injecting liquid crystals in the sealed frames, bonding the pairs of the substrates, and curing the seals. The panels

prevent increase of elec. resistance after heat moisture treatment.

IT 836612-99-8P

(common transfer material; common transfer materials for manufacture of liquid crystal panels with improved reliability)

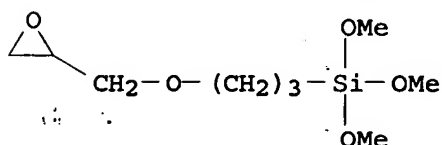
RN 836612-99-8 HCAPLUS

CN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-, polymer with Adeka EP 4000S 2-propenoate and DEN 431 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2530-83-8

CMF C9 H20 O5 Si



CM 2

CRN 700370-14-5

CMF C3 H4 O2 . x Unspecified

CM 3

CRN 475487-01-5

CMF Unspecified

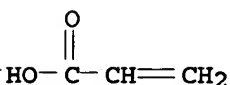
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 79-10-7

CMF C3 H4 O2



CM 5

CRN 63251-49-0

CMF C3 H4 O2 . x Unspecified

CM 6

CRN 37348-52-0

CMF Unspecified

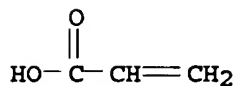
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 7

CRN 79-10-7

CMF C3 H4 O2



- IC ICM G02F001-1345
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST common transfer electrode liq crystal panel; epoxy resin  
acrylate gold polymer particle common
- IT Polymers, uses  
(Au plated particles; common transfer materials for manufacture of  
liquid crystal panels with improved reliability)
- IT Polyoxyalkylenes, preparation  
(acrylic-epoxy, common transfer material; common transfer  
materials for manufacture of liquid crystal panels with  
improved reliability)
- IT Epoxy resins, preparation  
(acrylic-polyoxyalkylene-, common transfer material; common  
transfer materials for manufacture of liquid crystal panels  
with improved reliability)
- IT Liquid crystal displays  
Seals (parts)  
(common transfer materials for manufacture of liquid crystal  
panels with improved reliability)
- IT Electrodes  
(common transfer; common transfer materials for manufacture of liquid  
crystal panels with improved reliability)
- IT Epoxy resins, uses  
(protruded electroconductive particle components; common  
transfer materials for manufacture of liquid crystal panels  
with improved reliability)
- IT 7440-22-4, Silcoat AgC-G, uses  
(Silcoat AgC-G, protruded electroconductive particle component;  
common transfer materials for manufacture of liquid crystal  
panels with improved reliability)
- IT 836612-99-8P  
(common transfer material; common transfer materials for manufacture  
of liquid crystal panels with  
improved reliability)
- IT 836631-62-0, World Rock D 70F3  
(common transfer materials for manufacture of liquid crystal  
panels with improved reliability)
- IT 836629-50-6, Micropearl AU-LB 206  
(common transfer materials for manufacture of liquid crystal  
panels with improved reliability)
- IT 63251-49-0P, DEN 431 acrylate 700370-14-5P, Adeka EP 4000S  
acrylate  
(common transfer materials for manufacture of liquid crystal  
panels with improved reliability)

IT 1332-29-2, Tin oxide 158707-89-2, SN 100P  
(electroconductive fine particle; common transfer materials for  
manufacture of liquid crystal panels with improved  
reliability)

IT 836629-39-1, Micropearl AU 20625  
(electroconductive particle; common transfer materials for  
manufacture of liquid crystal panels with improved  
reliability)

IT 7631-86-9, SO Cl, uses  
(inorg. filler; common transfer materials for manufacture of liquid  
crystal panels with improved reliability)

IT 7440-57-5, Gold, uses  
(polymer particles plated with; common transfer materials for  
manufacture of liquid crystal panels with improved  
reliability)

IT 25068-38-6, Epikote 1001  
(protruded electroconductive fine particle component; common  
transfer materials for manufacture of liquid crystal panels  
with improved reliability)

L24 ANSWER 13 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:13756 HCAPLUS  
DOCUMENT NUMBER: 142:103446  
TITLE: Radiation-sensitive resin compositions,  
spacers therefrom, and liquid crystal displays  
therewith  
INVENTOR(S): Ichinohe, Daigo; Uetsuhara, Akihiro; Nishio,  
Hisahiro; Nishikawa, Michinori  
PATENT ASSIGNEE(S): JSR Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005003930	A2	20050106	JP 2003-167238	2003 0612
PRIORITY APPLN. INFO.:			JP 2003-167238	2003 0612

AB The spacers for LCD, satisfying thermal expansion coefficient  $>2.0 \times 10^{-4}$  and  $\leq 8.0 \times 10^{-4}/^\circ$ , formed from  
comps. comprising (A) (a1) copolymers of unsatd. carboxylic acids  
and/or their anhydrides and (a2) unsatd. compds. other than a1,  
(B) multifunctional unsatd. monomers, and (C) radiation-sensitive  
polymerization initiators, are claimed. Display panels with  
the spacers show stable gap between two substrates over  
wide temperature range.

IT 812649-56-2P 812649-57-3P 817168-49-3P  
, Benzyl methacrylate-1,3-butadiene-butyl methacrylate-Kayarad  
DPHA-methacrylic acid-R 1302 copolymer  
(spacers; radiation-sensitive resin compns., spacers therefrom,  
and liquid crystal displays therewith)

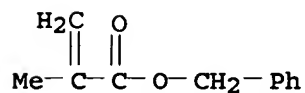
RN 812649-56-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
1,3-butadiene, 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-  
propanediol] 2-propenoate and phenylmethyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

CRN 2495-37-6

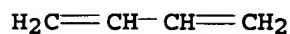
CMF C11 H12 O2



CM 2

CRN 106-99-0

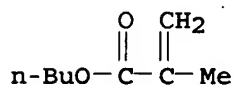
CMF C4 H6



CM 3

CRN 97-88-1

CMF C8 H14 O2



CM 4

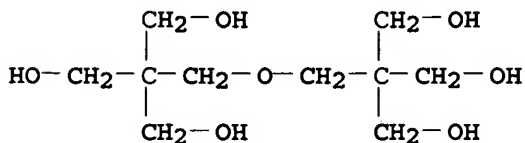
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 5

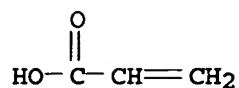
CRN 126-58-9

CMF C10 H22 O7



CM 6

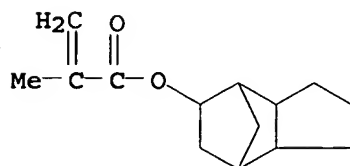
CRN 79-10-7  
CMF C3 H4 O2



RN 812649-57-3 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, octahydro-4,7-methano-1H-inden-5-yl ester, polymer with 1,3-butadiene, ethenylbenzene, oxiranylmethyl 2-methyl-2-propenoate and 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol] 2-propenoate (9CI) (CA INDEX NAME)

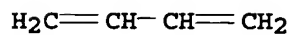
CM 1

CRN 34759-34-7  
CMF C14 H20 O2



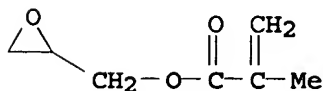
CM 2

CRN 106-99-0  
CMF C4 H6



CM 3

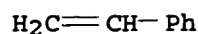
CRN 106-91-2  
CMF C7 H10 O3



CM 4

CRN 100-42-5  
CMF C8 H8





CM 5

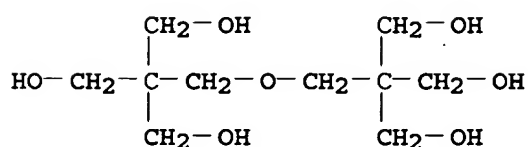
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 6

CRN 126-58-9

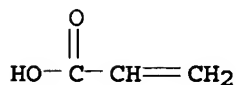
CMF C10 H22 O7



CM 7

CRN 79-10-7

CMF C3 H4 O2



RN 817168-49-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with 1,3-butadiene, butyl  
2-methyl-2-propenoate, phenylmethyl 2-methyl-2-propenoate,  
2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol]  
2-propenoate and R 1302 (9CI) (CA INDEX NAME)

CM 1

CRN 817168-08-4

CMF Unspecified

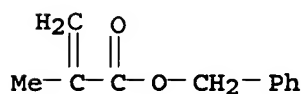
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 2495-37-6

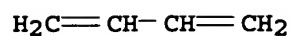
CMF C11 H12 O2



CM 3

CRN 106-99-0

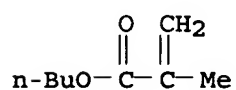
CMF C4 H6



CM 4

CRN 97-88-1

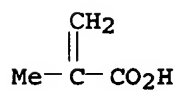
CMF C8 H14 O2



CM 5

CRN 79-41-4

CMF C4 H6 O2



CM 6

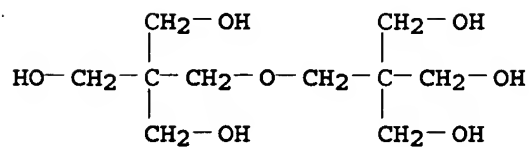
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 7

CRN 126-58-9

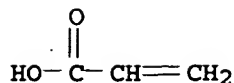
CMF C10 H22 O7



CM 8

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02F001-1339  
 ICS C09D004-00; C09D005-00; C09D133-02; G03F007-004; G03F007-027  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST thermal expansion suppressed spacer liq crystal display; acrylic  
 photocured spacer panel display gap stability  
 IT 812649-56-2P 812649-57-3P 817168-49-3P  
 , Benzyl methacrylate-1,3-butadiene-butyl methacrylate-Kayarad  
 DPHA-methacrylic acid-R 1302 copolymer  
 (spacers; radiation-sensitive resin compns., spacers therefrom,  
 and liquid crystal displays therewith)

L24 ANSWER 14 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:6752 HCAPLUS

DOCUMENT NUMBER: 142:269065

TITLE: Preparation of microfluidic devices using  
 micropatterning of a photosensitive material  
 by a maskless, liquid-crystal-display  
 projection method

AUTHOR(S): Kobayashi, Jun; Yamato, Masayuki; Itoga,  
 Kazuyoshi; Kikuchi, Akihiko; Okano, Teruo

CORPORATE SOURCE: Institute of Advanced Biomedical Engineering,  
 and Science, Tokyo Women's Medical University,  
 Tokyo, 162-8666, Japan

SOURCE: Advanced Materials (Weinheim, Germany) (2004),  
 16(22), 1997-2001

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel method is reported for rapid prototyping of  
 polydimethylsiloxane microfluidic channels using a simple  
 photopolymer. procedure adapted from a liquid-crystal-display  
 projector. Micropatterns are formed on photosensitive materials  
 from images that are prepared using personal-computer software.  
 Desired poly(dimethylsiloxane) (PDMS) microfluidic channels are  
 obtained rapidly without the need for expensive photomasks and  
 light sources. Thus, a mixture containing isobornyl acrylate (IBA),  
 tetraethylene glycol dimethacrylate (TEGDMA), and a photoinitiator  
 was photopolymerized into a computer generated design using using  
 liquid-crystal-display projector. The projector light radiated  
 through the liquid crystal panels in the pattern selected  
 by a software to produce rigid, 3D IBA-TEGDMA copolymer features.  
 The PDMS microchannels were fabricated as the neg. replicas by  
 pouring and curing PDMS prepolymer over the IBA-TEGDMA copolymer  
 master. The crosslinked IBA-TEGDMA copolymer master was  
 rigid and covalently bonded to a silanized glass surface so that  
 the PDMS microchannels cured on the master were easily pulled from  
 the substrate. The produced PDMS microchannels were  
 sealed with a flat PDMS sheet using oxygen plasma treatment prior  
 to contacting. Microchannels were also formed by conformal  
 sealing of the prepared PDMS and another substrate without  
 plasma treatment.

IT 429678-64-8D, Isobornyl acrylate-tetraethylene glycol

dimethacrylate copolymer, reaction product with glass-bound  
(methacryloxypropyl)trimethoxysilane  
(master; preparation of microfluidic devices using micropatterning  
of photosensitive material by maskless liquid-  
crystal-display projection method)

RN 429678-64-8 HCAPLUS

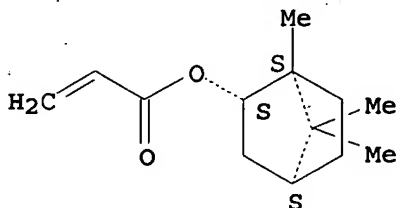
CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediylxy-2,1-  
ethanediyl) ester, polymer with rel-(1R,2R,4R)-1,7,7-  
trimethylbicyclo[2.2.1]hept-2-yl 2-propenoate (9CI) (CA INDEX  
NAME)

CM 1

CRN 5888-33-5

CMF C13 H20 O2

Relative stereochemistry.

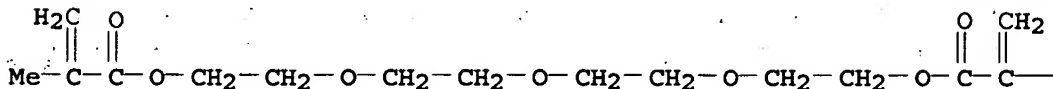


CM 2

CRN 109-17-1

CMF C16 H26 O7

PAGE 1-A



PAGE 1-B

— Me

CC 74-5 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 6, 9

IT Fibronectins

(localization of biol. compds. on substrates using  
PDMS microchannels fabricated by micropatterning of  
photosensitive material by maskless liquid-crystal-display  
projection)

IT 429678-64-8D, Isobornyl acrylate-tetraethylene glycol  
dimethacrylate copolymer, reaction product with glass-bound

(methacryloxypropyl)trimethoxysilane  
 (master; preparation of microfluidic devices using micropatterning  
 of photosensitive material by maskless liquid-  
 crystal-display projection method)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L24 ANSWER 15 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1058698 HCAPLUS

DOCUMENT NUMBER: 142:46040

TITLE: Cellulose ester-based optical films having  
 hard coats and polarizers and LCD assembled  
 with the same

INVENTOR(S): Takagi, Takahiro; Ono, Kaori; Okubo, Yasushi

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004347778	A2	20041209	JP 2003-143385	2003 0521

PRIORITY APPLN. INFO.: JP 2003-143385

2003  
0521

AB The optical film has on  $\geq 1$  sides actinic ray-cured resin layer(s) directly or via other layers on a cellulose ester substrate film bearing residual OH which satisfies  $A + B = 2.1-2.9$  and  $B = 0-0.8$  and forms a covalent bond with a compound  $C_6H_4-nR_1R_2n$  (I;  $R_1$  = substituent which form covalent bond with residual OH of cellulose ester;  $R_2$  = H, substituent;  $n = 0-5$  integer; when  $\geq 2$ ,  $R_2$  may be linked together and form condensed polycyclic ring); the OH forming the covalent bond with I is  $0.1-0.9$  to 3 OH in the glucose unit constituting cellulose. Preferably,  $\geq 1$  of the actinic ray-cured resin layer is provided with a metal oxide layer containing O and/or O and metal element directly or via other layers. Preferably, the optical film further contains compds. containing  $\geq 3$  aromatic rings. The polarizer for LCD contains the optical film and optionally a metal oxide layer formed by atom. pressure plasma treatment in N-containing gas. The LCD has high imaging quality, high brightness, and large panel size.

IT 738587-60-5P

(actinic ray-cured layer; cellulose ester-based optical films having hard coats for LCD polarizers)

RN 738587-60-5 HCAPLUS

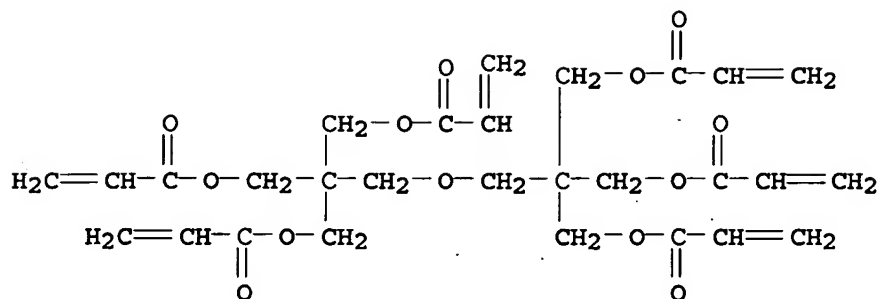
CN 2-Propenoic acid, 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester, dimer, polymer with 2-[[[3-[(1-oxo-2-propenyl)oxy]-2,2-bis[[[(1-oxo-2-propenyl)oxy]methyl]propoxy]methyl]-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate (9CI) (CA

## INDEX NAME)

CM 1

CRN 29570-58-9

CMF C28 H34 O13



CM 2

CRN 276887-41-3

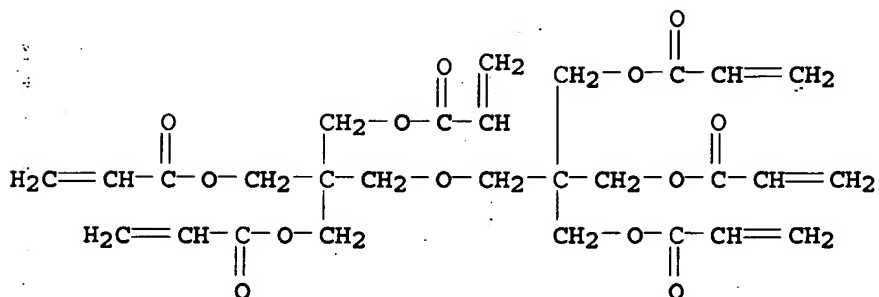
CMF (C28 H34 O13) 2

CCI PMS

CM 3

CRN 29570-58-9

CMF C28 H34 O13



IC ICM G02B001-11

ICS B32B023-20; C23C016-40; G02B001-10; G02B005-30; G02F001-1335

CC 74-13 (Radiation Chemistry, Photochemistry, and

**Photographic and Other Reprographic Processes)**

Section cross-reference(s) : 73

IT 738587-60-5P

(actinic ray-cured layer; cellulose ester-based optical films having hard coats for LCD polarizers)

L24 ANSWER 16 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:963487 HCAPLUS

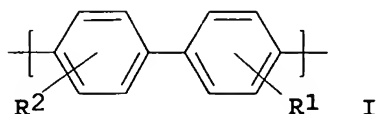
DOCUMENT NUMBER: 141:418041

TITLE: Liquid crystal panel and

INVENTOR(S): projection-type display device  
 Terao, Koichi; Yazaki, Masayuki; Uehara,  
 Masamitsu; Shimizu, Shigeo; Ota, Yoshihisa  
 PATENT ASSIGNEE(S): Seiko Epson Corp., Japan; JSR Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004317948	A2	20041111	JP 2003-114364	2003 0418
PRIORITY APPLN. INFO.:				2003 0418

GI



AB Disclosed is the liquid crystal panel comprising a liquid crystal layer sandwiched between a pair of substrates, wherein at least one of the substrates has a polyimide orientation film containing I (R1,2 = H, saturated hydrocarbon, unsatd. hydrocarbon, fluorohydrocarbon, oxohydrocarbon). Also disclosed is the projection-type display device comprising a light source, a light condenser, and a magnifying projector. The orientation film containing I exhibited a suppressed light degradation

IT 791811-17-1P, 4,4'-Diamino-2,2'-dimethylbiphenyl-4,4'-diaminodiphenylmethane-2,3,5-tricarboxycyclopentylacetic dianhydride copolymer 791811-18-2P  
 (liquid crystal panel having polyimide orientation film for projection-type display device)

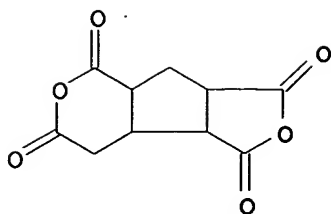
RN 791811-17-1 HCAPLUS

CN 1H,3H-Furo[3',4':3,4]cyclopenta[1,2-c]pyran-1,3,5,7-tetrone, hexahydro-, polymer with 2,2'-dimethyl[1,1'-biphenyl]-4,4'-diamine and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 87078-75-9

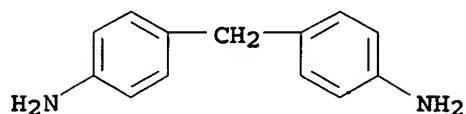
CMF C10 H8 O6



CM 2

CRN 101-77-9

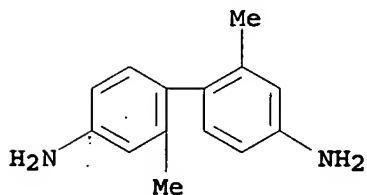
CMF C13 H14 N2



CM 3

CRN 84-67-3

CMF C14 H16 N2



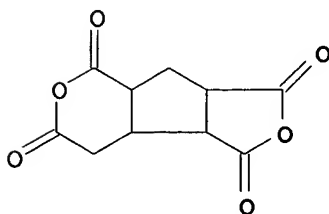
RN 791811-18-2 HCAPLUS

CN 1H,3H-Furo[3',4':3,4]cyclopenta[1,2-c]pyran-1,3,5,7-tetrone,  
hexahydro-, polymer with 2,2'-dimethyl[1,1'-biphenyl]-4,4'-diamine  
(9CI) (CA INDEX NAME)

CM 1

CRN 87078-75-9

CMF C10 H8 O6

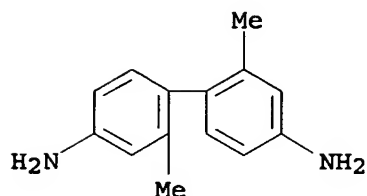




CM 2

CRN 84-67-3

CMF C14 H16 N2



- IC ICM G02F001-1337  
ICS C08G073-10
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38
- ST liq crystal panel projection display polyimide  
orientation film
- IT Projection apparatus  
(electrooptical, liquid-crystal; liquid crystal panel  
having polyimide orientation film for projection-type display  
device)
- IT Liquid crystal displays  
(liquid crystal panel having polyimide orientation film  
for projection-type display device)
- IT Polyimides, uses  
(liquid crystal panel having polyimide orientation film  
for projection-type display device)
- IT Polyamic acids  
(liquid crystal panel having polyimide orientation film  
for projection-type display device)
- IT 791811-17-1P, 4,4'-Diamino-2,2'-dimethylbiphenyl-4,4'-  
diaminodiphenylmethane-2,3,5-tricarboxycyclopentylacetic  
dianhydride copolymer 791811-18-2P  
(liquid crystal panel having  
polyimide orientation film for projection-type display device)

L24 ANSWER 17 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:933235 HCAPLUS

DOCUMENT NUMBER: 142:207828

TITLE: Method of fabricating multidomain liquid  
crystal panel

INVENTOR(S): Nam, Mi Suk; Park, Su Hyeon

PATENT ASSIGNEE(S): LG Philips LCD Co., Ltd., S. Korea

SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp.  
given  
CODEN: KRXXA7

DOCUMENT TYPE: Patent

LANGUAGE: Korean

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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KR 2002031453

A

20020502

KR 2000-61932

2000

1020

PRIORITY APPLN. INFO.:

KR 2000-61932

2000

1020

AB A method of fabricating a multidomain liquid crystal panel is provided to produce a multi-domain through one-time light irradiation using a mask on which a predetd. structure is formed. A light alignment film is formed on the upper or lower substrate. Lights are irradiated on the light alignment film while a mask covers the alignment film. The mask has a plurality of structures formed on the surface. The structures control the refraction direction of the lights irradiated on the alignment film. The upper and lower substrates are attached to each other. Liquid crystal is filled between the two substrates. The structures are formed of PMMA (polymethyl methacrylate), quartz, or glass. The lights are irradiated once.

IT 9011-14-7

(fabricating multidomain liquid crystal panel)

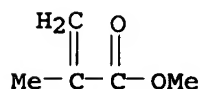
RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6

CMF C5 H8 O2



IC ICM G02F001-136

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST fabrication multidomain liq crystal panel

IT Liquid crystal displays

(fabricating multidomain liquid crystal panel)

IT Glass, uses

(fabricating multidomain liquid crystal panel)

IT 9011-14-7 14808-60-7, Quartz, uses

(fabricating multidomain liquid crystal panel)

L24 ANSWER 18 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:876808 HCAPLUS

DOCUMENT NUMBER: 141:372872

TITLE: Liquid crystal panel containing crosslinked polymer with specific orientation to liquid crystal interface and manufacture thereof

INVENTOR(S): Kataoka, Shingo; Senda, Hideo

PATENT ASSIGNEE(S): Fujitsu Display Technologies Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

DOCUMENT TYPE: CODEN: JKXXAF  
 LANGUAGE: Patent  
 FAMILY ACC. NUM. COUNT: 1 Japanese  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004294648	A2	20041021	JP 2003-85220	2003 0326
US 2005109985	A1	20050526	US 2004-806042	2004 0322
PRIORITY APPLN. INFO.:			JP 2003-85220	A 2003 0326

AB Disclosed is the liquid crystal panel comprising a liquid crystal layer sandwiched between a pair of substrates, wherein the liquid crystal layer contains a liquid crystal and a crosslinked resin which is made up of a crosslinked structure attached to the liquid crystal interface and a terminal structure rising from the interface.

IT 25101-21-7P 85241-08-3P 777069-57-5P  
 777069-67-7P 777069-72-4P 777069-73-5P  
 777069-75-7P 777069-76-8P 777069-78-0P  
 777069-80-4P 777069-83-7P 777069-86-0P  
 777861-19-5P 777861-21-9P 777861-23-1P

(liquid crystal panel containing  
 crosslinked polymer with specific orientation to  
 liquid crystal interface)

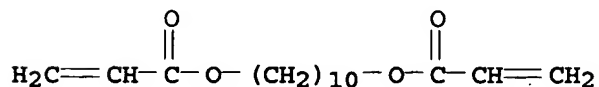
RN 25101-21-7 HCAPLUS

CN 2-Propenoic acid, 1,10-decanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 13048-34-5

CMF C16 H26 O4



RN 85241-08-3 HCAPLUS

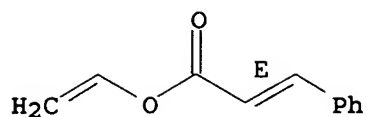
CN 2-Propenoic acid, 3-phenyl-, ethenyl ester, (2E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 17719-70-9

CMF C11 H10 O2

Double bond geometry as shown.



RN 777069-57-5 HCAPLUS

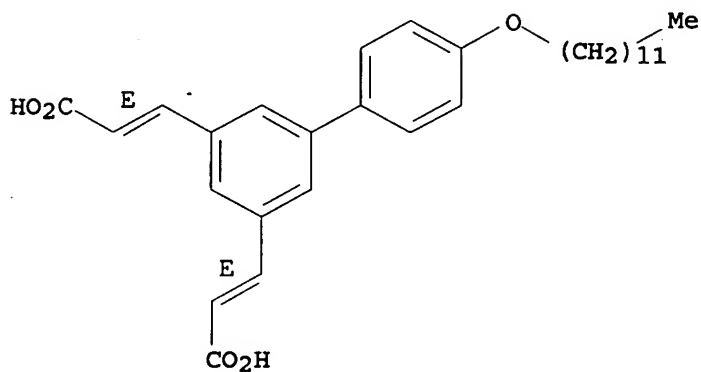
CN 2-Propenoic acid, 3,3'-[4'-(dodecyloxy)[1,1'-biphenyl]-3,5-diyl]bis-, (2E,2'E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 777069-56-4

CMF C30 H38 O5

Double bond geometry as shown.



RN 777069-67-7 HCAPLUS

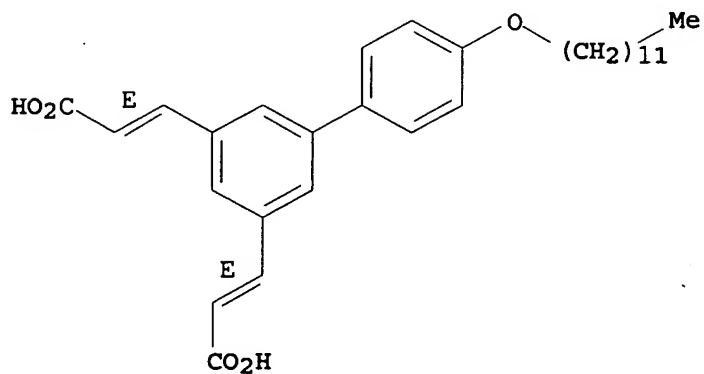
CN 2-Propenoic acid, 3,3'-[4'-(dodecyloxy)[1,1'-biphenyl]-3,5-diyl]bis-, (2E,2'E)-, polymer with dodecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 777069-56-4

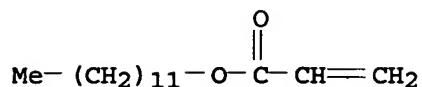
CMF C30 H38 O5

Double bond geometry as shown.



CM 2

CRN 2156-97-0  
 CMF C15 H28 O2



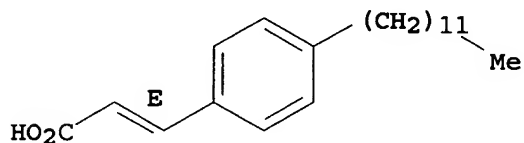
RN 777069-72-4 HCAPLUS

CN 2-Propenoic acid, 3,3'-[4'-(dodecyloxy)[1,1'-biphenyl]-3,5-diyl]bis-, (2E,2'E)-, polymer with (2E)-3-(4-dodecylphenyl)-2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 777069-71-3  
 CMF C21 H32 O2

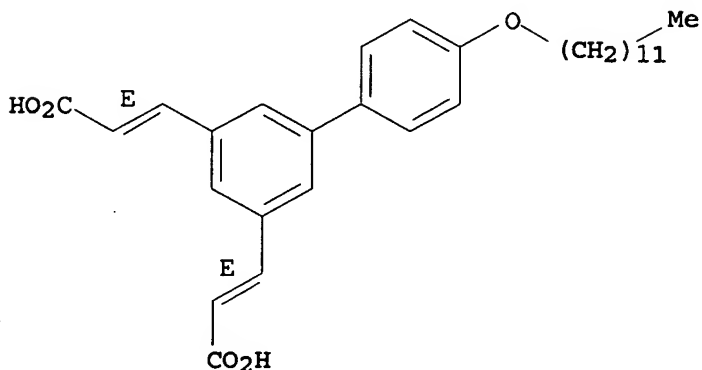
Double bond geometry as shown.



CM 2

CRN 777069-56-4  
 CMF C30 H38 O5

Double bond geometry as shown.



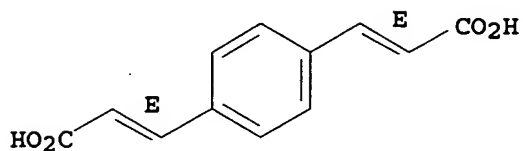
RN 777069-73-5 HCAPLUS

CN 2-Propenoic acid, 3,3'-[(1,4-phenylene)bis-], (2E,2'E)-, polymer with dodecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

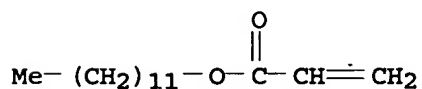
CRN 23713-85-1  
CMF C12 H10 O4

Double bond geometry as shown.



CM 2

CRN 2156-97-0  
CMF C15 H28 O2

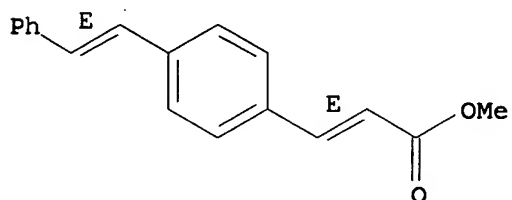


RN 777069-75-7 HCAPLUS  
CN 2-Propenoic acid, 3-[4-[(1E)-2-phenylethenyl]phenyl]-, methyl ester, (2E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 71205-18-0  
CMF C18 H16 O2

Double bond geometry as shown.

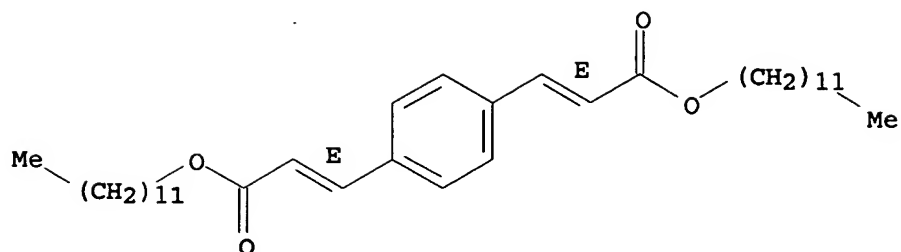


RN 777069-76-8 HCAPLUS  
CN 2-Propenoic acid, 3,3'-(1,4-phenylene)bis-, didodecyl ester, (2E,2'E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 125398-36-9  
CMF C36 H58 O4

Double bond geometry as shown.



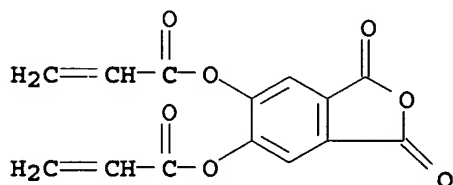
RN 777069-78-0 HCAPLUS

CN 2-Propenoic acid, 1,3-dihydro-1,3-dioxo-5,6-isobenzofurandiyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 777069-77-9

CMF C14 H8 O7



RN 777069-80-4 HCAPLUS

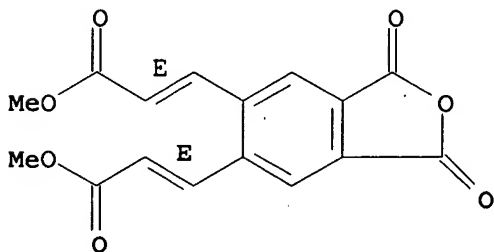
CN 2-Propenoic acid, 3,3'-(1,3-dihydro-1,3-dioxo-5,6-isobenzofurandiyl)bis-, dimethyl ester, (2E,2'E)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 777069-79-1

CMF C16 H12 O7

Double bond geometry as shown.

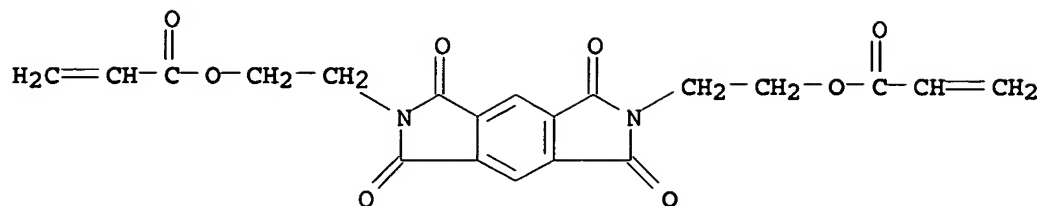


RN 777069-83-7 HCAPLUS

CN 2-Propenoic acid, (5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl)di-2,1-ethanediyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 717132-69-9  
CMF C20 H16 N2 O8

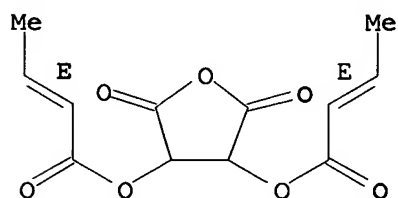


RN 777069-86-0 HCAPLUS  
CN 1H-Indene-5,6-dicarboxylic acid, 2,3-dihydro-, diethenyl ester,  
polymer with tetrahydro-2,5-dioxo-3,4-furandiyl  
di-(2E)-2-butenate (9CI) (CA INDEX NAME)

CM 1

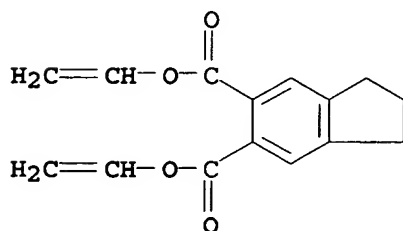
CRN 777069-85-9  
CMF C12 H12 O7

Double bond geometry as shown.



CM 2

CRN 777069-84-8  
CMF C15 H14 O4



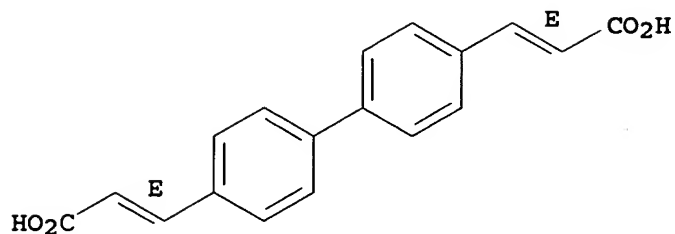
RN 777861-19-5 HCAPLUS  
CN 2-Propenoic acid, 3,3'-[1,1'-biphenyl]-4,4'-diylbis-, (2E,2'E)-,  
polymer with dodecyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 341556-80-7  
CMF C18 H14 O4



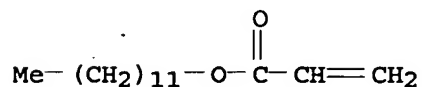
Double bond geometry as shown.



CM 2

CRN 2156-97-0

CMF C15 H28 O2



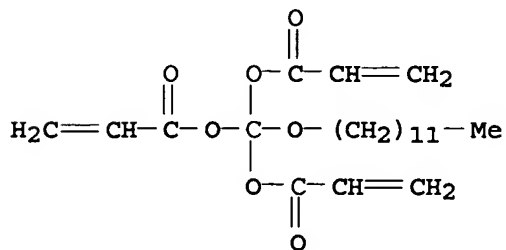
RN 777861-21-9 HCAPLUS

CN 2-Propenoic acid, 3,3'-[1,1'-biphenyl]-4,4'-diylbis-, (2E,2'E)-, polymer with (dodecyloxy)methylidyne tri-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 777861-20-8

CMF C22 H34 O7

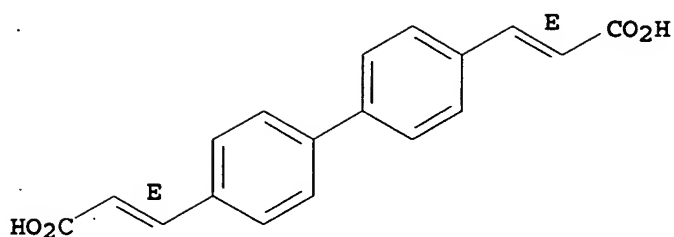


CM 2

CRN 341556-80-7

CMF C18 H14 O4

Double bond geometry as shown.



RN 777861-23-1 HCAPLUS

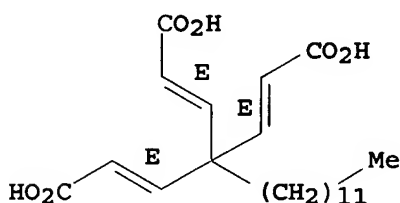
CN 2,5-Heptadienedioic acid, 4-[(1E)-2-carboxyethenyl]-4-dodecyl-,  
(2E,5E)-, polymer with (2E,2'E)-3,3'-[1,1'-biphenyl]-4,4'-  
diylbis[2-propenoic acid] (9CI) (CA INDEX NAME)

CM 1

CRN 777861-22-0

CMF C22 H34 O6

Double bond geometry as shown.

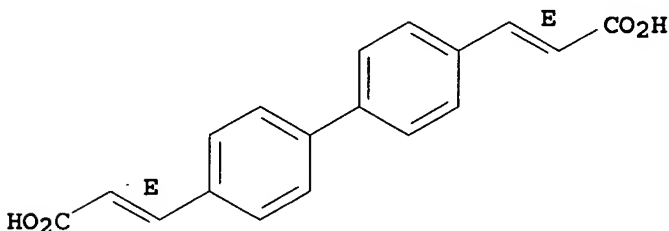


CM 2

CRN 341556-80-7

CMF C18 H14 O4

Double bond geometry as shown.



IC ICM G02F001-1334

ICS G02F001-1337

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38

ST liq crystal panel display crosslinked polymer  
specific orientation interface

IT Liquid crystal displays  
(liquid crystal panel containing crosslinked  
polymer with specific orientation to liquid crystal interface)

IT 25101-21-7P 85241-08-3P 777069-57-5P  
 777069-63-3P 777069-67-7P 777069-72-4P  
 777069-73-5P 777069-74-6P 777069-75-7P  
 777069-76-8P 777069-78-0P 777069-80-4P  
 777069-82-6P 777069-83-7P 777069-86-0P  
 777861-19-5P 777861-21-9P 777861-23-1P  
 (liquid crystal panel containing  
 crosslinked polymer with specific orientation to  
 liquid crystal interface)

L24 ANSWER 19 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:803848 HCAPLUS  
 DOCUMENT NUMBER: 141:322731  
 TITLE: Liquid crystal display panel  
 INVENTOR(S): Tsuda, Hideaki; Tanuma, Seiji; Koike, Yoshio  
 PATENT ASSIGNEE(S): Fujitsu Display Technologies Corporation,  
 Japan  
 SOURCE: U.S. Pat. Appl. Publ., 23 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

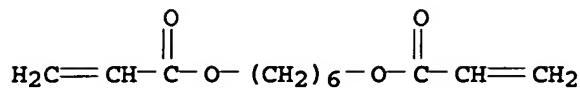
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004191428	A1	20040930	US 2004-804303	2004 0319
JP 2004294605	A2	20041021	JP 2003-84502	2003 0326
PRIORITY APPLN. INFO.:			JP 2003-84502	A 2003 0326

AB A liquid crystal panel is provided that has a liquid crystal layer sandwiched between a pair of substrates, wherein the liquid crystal layer comprises a liquid crystal and a cross-linked resin, the cross-linked resin comprises a cross-linked structural part adhered to a liquid crystal layer contacting surface and a terminal part rising from the liquid crystal layer contacting surface, and at least one of three conditions: the outer surface of at least one substrate is curved; a liquid crystal layer contacting surface is curved; and the thickness of one of the substrates is not more than 1/2 of the thickness of the other substrate. It is possible to obtain a liquid crystal panel having increased freedom in the appearance, device weight reduction, simplified structure, etc. by improving the outer and/or inner surfaces of the device.

IT 153686-62-5, 1,6-Hexanediol diacrylate-lauryl acrylate copolymer  
 (liquid crystal display panel)  
 RN 153686-62-5 HCAPLUS  
 CN 2-Propenoic acid, 1,6-hexanediyl ester, polymer with dodecyl 2-propenoate (9CI) (CA INDEX NAME)

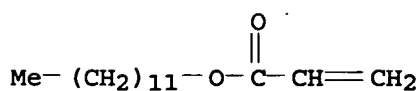
CM 1

CRN 13048-33-4  
CMF C12 H18 O4



CM 2

CRN 2156-97-0  
CMF C15 H28 O2



IC ICM C09K019-52  
ICS G02F001-1333  
INCL 428001300; 428001100; 252299010  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
ST liq crystal display panel  
IT Liquid crystal displays  
(liquid crystal display panel)  
IT 153686-62-5, 1,6-Hexanediol diacrylate-lauryl acrylate  
copolymer 765945-19-5  
(liquid crystal display panel)

L24 ANSWER 20 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:530212 HCAPLUS

DOCUMENT NUMBER: 141:79454

TITLE: Thin light-shielding and -reflecting adhesive  
tapes for liquid crystal displays

INVENTOR(S): Yamagami, Akira; Nakamura, Ryuichi; Tanabe,  
Kosuke; Yamada, Akihiro

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004184443	A2	20040702	JP 2002-347616	2002 1129
PRIORITY APPLN. INFO.:				2002 1129
				JP 2002-347616

AB The tapes include light-shielding thin black metal layers on one

side of light-reflecting white resin films, and adhesive layers on the metal layers and/or the white resin films. Liquid crystal displays having display panels fixed on backlight frames with the tapes show high brightness without light leakage.

IT 288307-46-0P

(crosslinked, adhesive layer; thin adhesive tapes having light-shielding black metal layers on one side of light-reflecting white resin films for liquid crystal displays)

RN 288307-46-0 HCAPLUS

CN 2-Propenoic acid, polymer with Burnock NC 40, butyl 2-propenoate, ethenyl acetate and 2-hydroxyethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 245055-03-2

CMF Unspecified

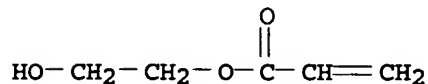
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 818-61-1

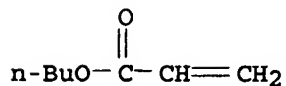
CMF C5 H8 O3



CM 3

CRN 141-32-2

CMF C7 H12 O2



CM 4

CRN 108-05-4

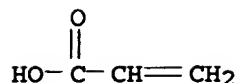
CMF C4 H6 O2



CM 5

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02B005-00  
 ICS B32B007-02; C09J007-02; C09J011-00; C09J201-00; G02B005-08;  
 G02F001-1335  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 73  
 IT 288307-46-0P  
 (crosslinked, adhesive layer; thin adhesive tapes  
 having light-shielding black metal layers on one side of  
 light-reflecting white resin films for liquid  
 crystal displays)

L24 ANSWER 21 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:330273 HCAPLUS  
 DOCUMENT NUMBER: 140:365745  
 TITLE: Liquid crystal composition, liquid crystal  
 element, and projection type display  
 INVENTOR(S): Yamada, Shuhei  
 PATENT ASSIGNEE(S): Seiko Epson Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004123829	A2	20040422	JP 2002-287451	2002 0930
PRIORITY APPLN. INFO.:			JP 2002-287451	2002 0930

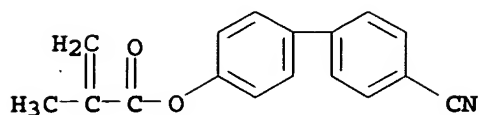
AB Title liquid crystal composition comprises a liquid crystal material and a polymer precursor which causes the N-I transition temperature to rise. Title liquid crystal element comprises a pair of **substrate** plates having transparent electrodes on the surface and the above liquid crystal composition between the two **substrate panels**. The liquid crystal element is for a projection liquid crystal display.

IT 89697-98-3 164917-76-4 164917-78-6  
 164917-85-5 195734-62-4 681457-80-7  
 681457-81-8  
 (liquid crystal composition for liquid  
 crystal element used in projection type display)

RN 89697-98-3 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 4'-cyano[1,1'-biphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

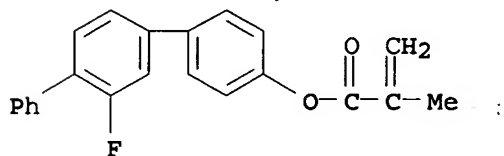
CRN 89697-97-2  
CMF C17 H13 N O2



RN 164917-76-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 3'-fluoro[1,1':4',1''-terphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

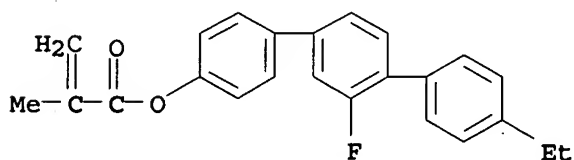
CRN 164917-75-3  
CMF C22 H17 F O2



RN 164917-78-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 4''-ethyl-3'-fluoro[1,1':4',1''-terphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

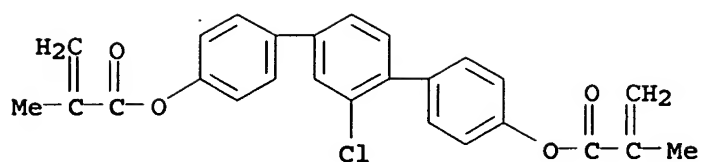
CRN 164917-77-5  
CMF C24 H21 F O2



RN 164917-85-5 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, 2'-chloro[1,1':4',1''-terphenyl]-4,4''-diyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 164917-84-4  
CMF C26 H21 Cl O4



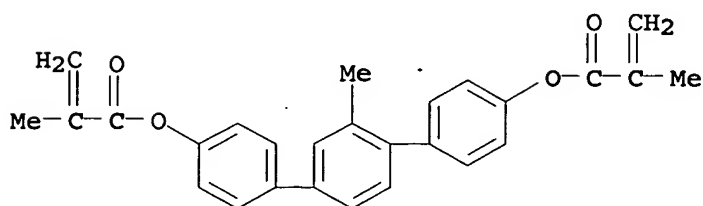
RN 195734-62-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2'-methyl[1,1':4',1''-terphenyl]-4,4''-diyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 167710-81-8

CMF C27 H24 O4



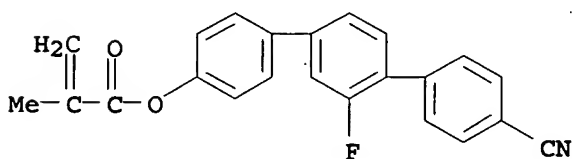
RN 681457-80-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4''-cyano-3'-fluoro[1,1':4',1''-terphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 164918-03-0

CMF C23 H16 F N O2



RN 681457-81-8 HCAPLUS

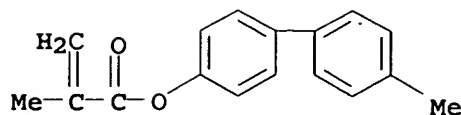
CN 2-Propenoic acid, 2-methyl-, 4'-methyl[1,1'-biphenyl]-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 681457-79-4

CMF C17 H16 O2





IC ICM C09K019-54  
 ICS G02F001-13; G02F001-1334  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 75  
 IT 89697-98-3 130391-02-5, BL 007 164917-76-4  
 164917-78-6 164917-85-5 181429-62-9, TL 215  
 195734-62-4 681457-80-7 681457-81-8  
 (liquid crystal composition for liquid  
 crystal element used in projection type display)

L24 ANSWER 22 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:20131 HCAPLUS  
 DOCUMENT NUMBER: 140:102097  
 TITLE: Reliable sealing of liquid crystal  
 panels and photocurable sealants with  
 good substrate adhesion therefor  
 INVENTOR(S): Yamamoto, Hitoshi; Sasata, Yasuyuki; Harufuji,  
 Tatsuji; Hirano, Yukio  
 PATENT ASSIGNEE(S): Chisso Corp., Japan; Chisso Petrochemical  
 Corporation  
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004004612	A2	20040108	JP 2003-70642	2003 0314
PRIORITY APPLN. INFO.:			JP 2002-92333	A 2002 0328

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT  
 \*

AB The sealants, showing long life, low moisture permeability, and  
 less leakage of ionic contaminants to liquid crystal layers, contain  
 polysilsesquioxane derivs. having (meth)acryloyloxy and/or epoxy  
 groups. Compds. represented by I and II (R, R' = 2-methylpropyl)  
 are also claimed.  
 IT 643018-07-9P 643018-08-0P 643018-09-1P  
 643018-10-4P 643018-12-6P 643023-21-6P

643023-22-7P

(low-moisture-permeable and long-life photocurable sealants  
containing POSS derivs. for LCD sealing)

RN 643018-07-9 HCAPLUS

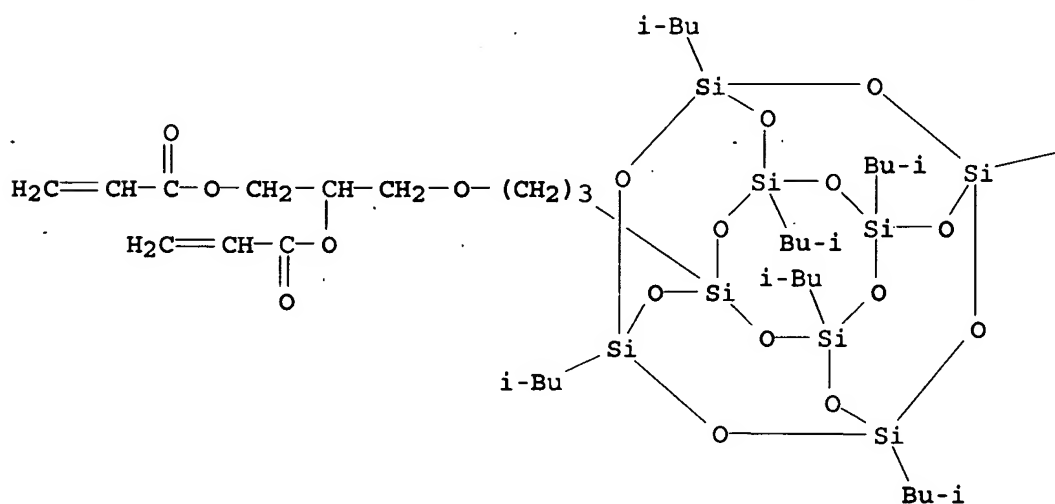
CN Hexanedioic acid, bis(7-oxabicyclo[4.1.0]hept-2-ylmethyl) ester,  
polymer with 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.  
15,15.17,13]octasiloxanyl]propoxy]methyl]-1,2-ethanediyl  
di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 643018-04-6

CMF C40 H80 O17 Si8

PAGE 1-A



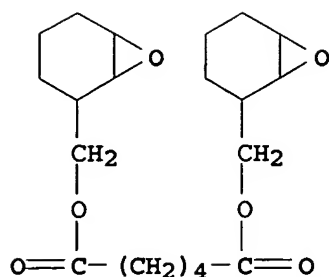
PAGE 1-B

—Bu-i

CM 2

CRN 219584-98-2

CMF C20 H30 O6



RN 643018-08-0 HCAPLUS

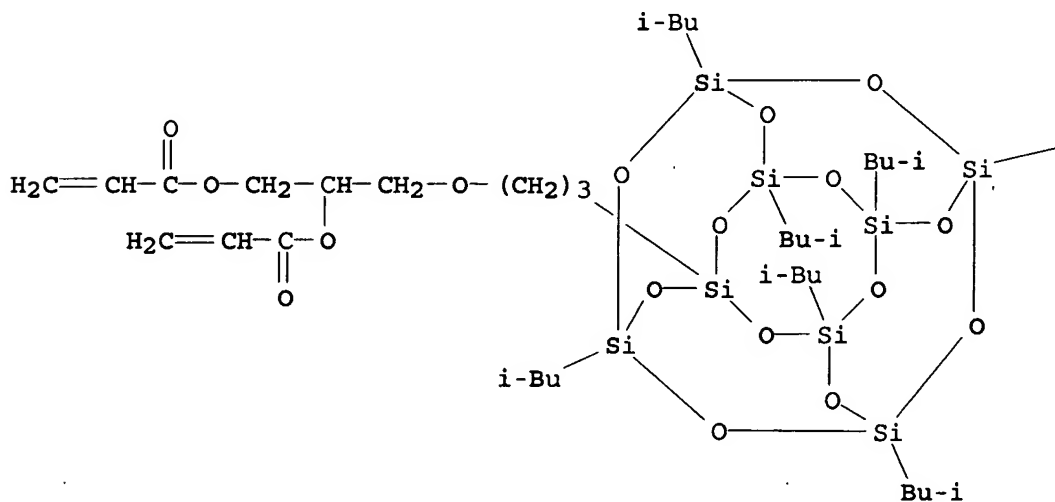
CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester, polymer with 4-[2-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]ethyl]-1,2-cyclohexanediyl di-2-propenoate and 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propoxy]methyl]-1,2-ethanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 643018-04-6

CMF C40 H80 O17 Si8

PAGE 1-A



PAGE 1-B

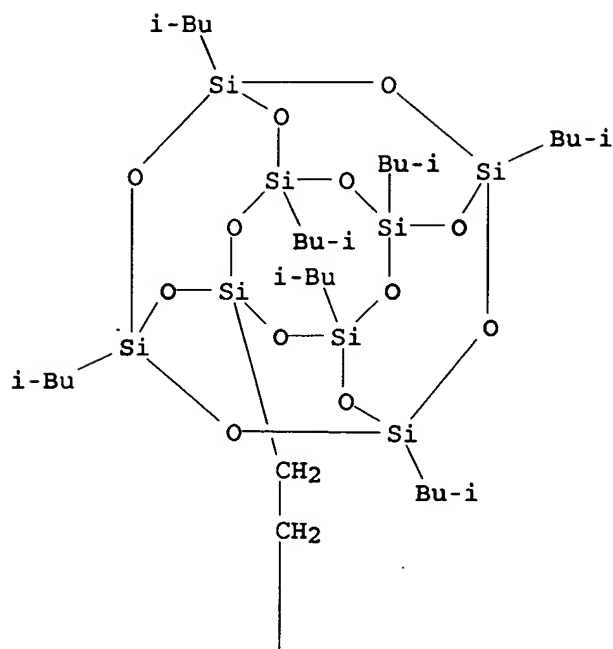
—Bu-i

CM 2

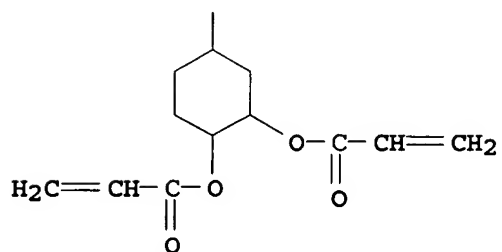
CRN 643018-03-5

CMF C42 H82 O16 Si8

PAGE 1-A



PAGE 2-A

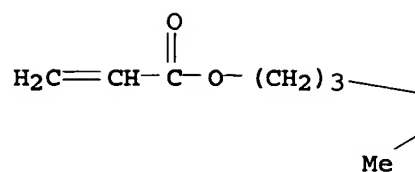


CM 3

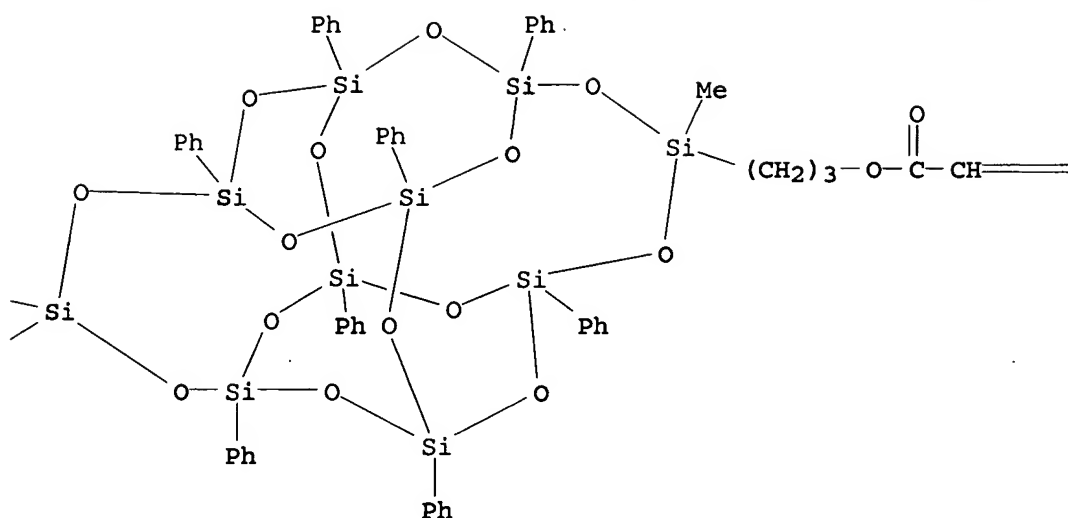
CRN 502925-58-8

CMF C62 H64 O18 Si10

PAGE 1-A



PAGE 1-B



PAGE 1-C

 $=\text{CH}_2$ 

RN 643018-09-1 HCAPLUS  
 CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester, polymer with 2,2'-[(1-

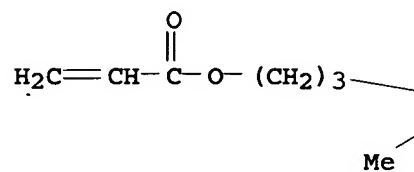
methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]  
 homopolymer 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

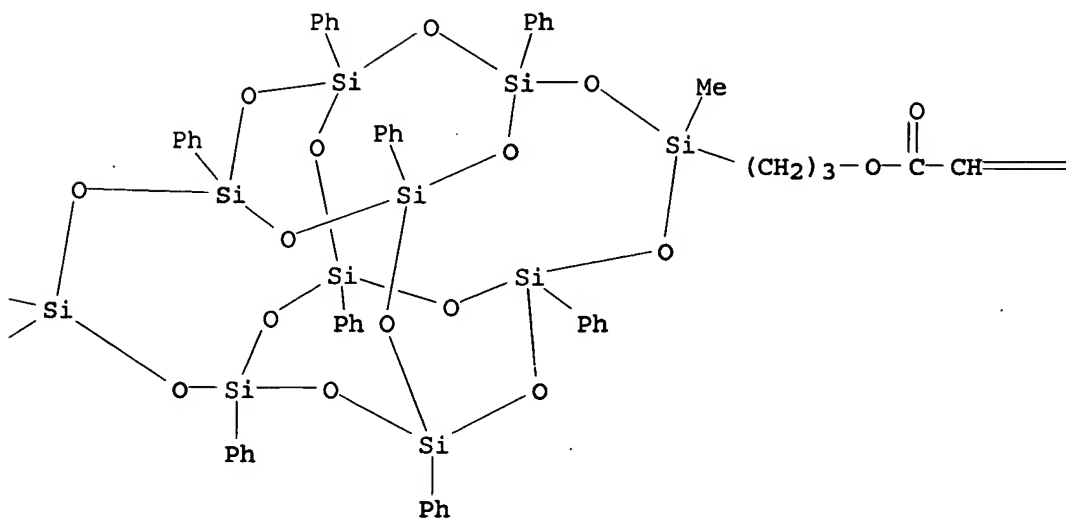
CRN 502925-58-8

CMF C62 H64 O18 Si10

PAGE 1-A



PAGE 1-B



PAGE 1-C

 $=CH_2$ 

CM 2

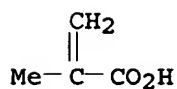
CRN 39290-46-5

CMF (C21 H24 O4)x . x C4 H6 O2

CM 3

CRN 79-41-4

CMF C4 H6 O2



CM 4

CRN 25085-99-8

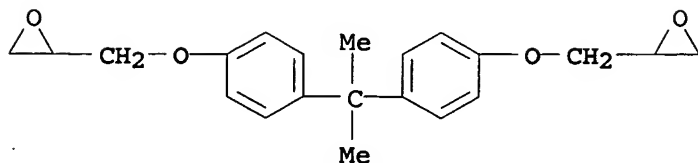
CMF (C21 H24 O4)x

CCI PMS

CM 5

CRN 1675-54-3

CMF C21 H24 O4



RN 643018-10-4 HCAPLUS

CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester, polymer with 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propoxy)methyl]-1,2-ethanediyl di-2-propenoate and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] homopolymer 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

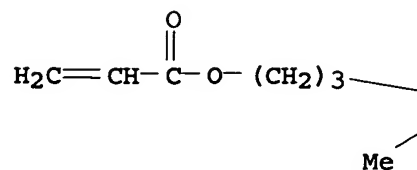
CM 1

PAGE 1-A



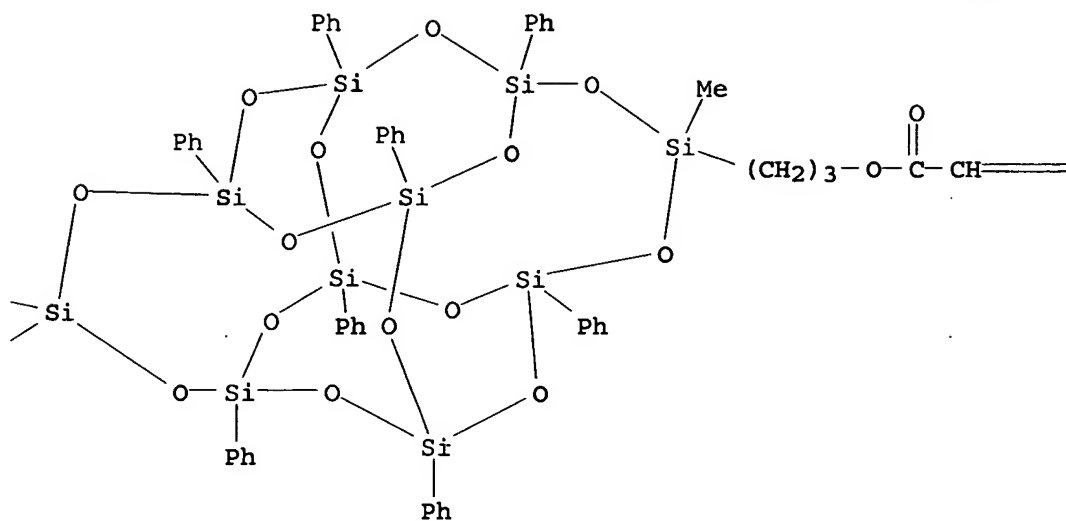
CM 2

PAGE 1-A





PAGE 1-B



PAGE 1-C



CM 3

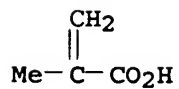
CRN 39290-46-5

CMF (C21 H24 O4)x . x C4 H6 O2

CM 4

CRN 79-41-4

CMF C4 H6 O2



CM 5

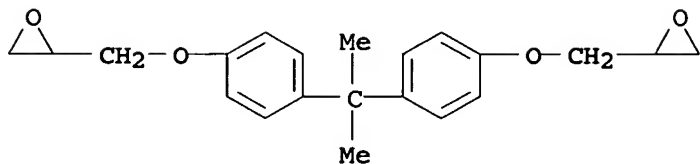
CRN 25085-99-8

CMF (C21 H24 O4)x  
CCI PMS

CM 6

CRN 1675-54-3

CMF C21 H24 O4



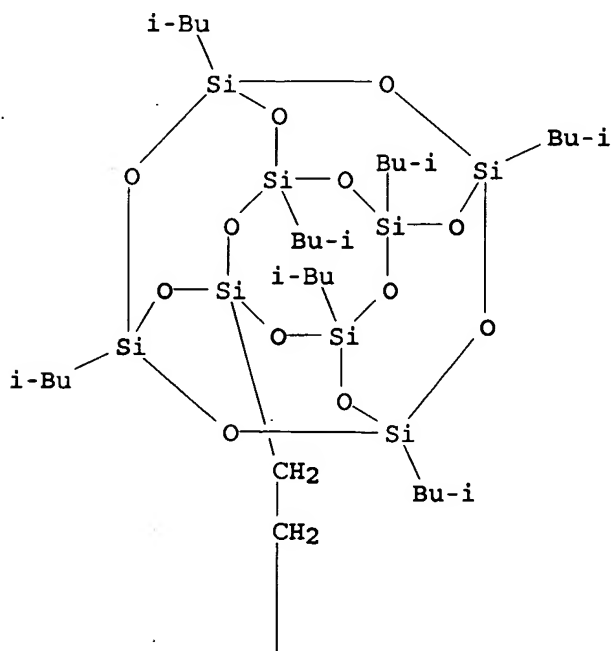
RN 643018-12-6 HCAPLUS  
CN 2-Propenoic acid, 4-[2-[heptakis(2-methylpropyl)pentacyclo[9.5.1.1.3,9.15,15.17,13]octasiloxanyl]ethyl]-1,2-cyclohexanediyl ester, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] homopolymer 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

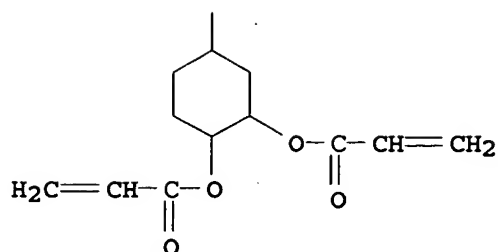
CRN 643018-03-5

CMF C42 H82 O16 Si8

PAGE 1-A



PAGE 2-A



CM 2

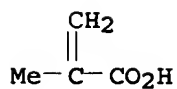
CRN 39290-46-5

CMF (C21 H24 O4)x . x C4 H6 O2

CM 3

CRN 79-41-4

CMF C4 H6 O2



CM 4

CRN 25085-99-8

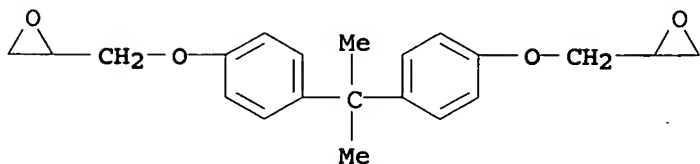
CMF (C21 H24 O4)x

CCI PMS

CM 5

CRN 1675-54-3

CMF C21 H24 O4



RN 643023-21-6 HCAPLUS

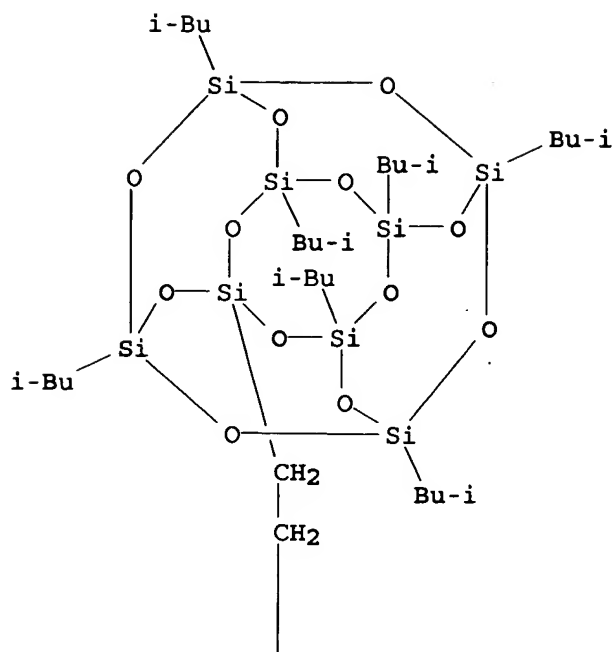
CN 2-Propenoic acid, 4-[2-[heptakis(2-methylpropyl)pentacyclo[9.5.1.1.1.3,9.15,15.17,13]octasiloxanyl]ethyl]-1,2-cyclohexanediyl ester, polymer with (chloromethyl)oxirane polymer with 4,4'-(1-methylethylidene)bis[phenol] di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

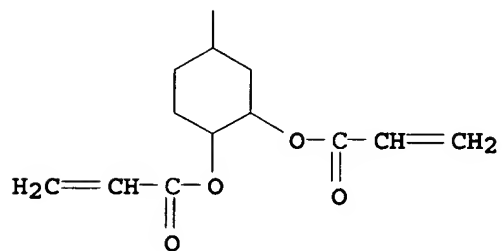
CRN 643018-03-5

CMF C42 H82 O16 Si8

PAGE 1-A



PAGE 2-A



CM 2

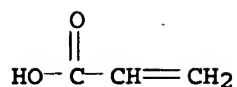
CRN 53814-24-7

CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 3

CRN 79-10-7

CMF C3 H4 O2



CM 4

CRN 25068-38-6

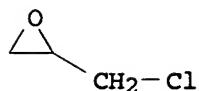
CMF (C15 H16 O2 . C3 H5 Cl O)x

CCI PMS

CM 5

CRN 106-89-8

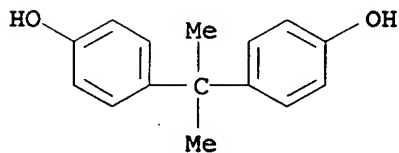
CMF C3 H5 Cl O



CM 6

CRN 80-05-7

CMF C15 H16 O2



RN 643023-22-7 HCAPLUS

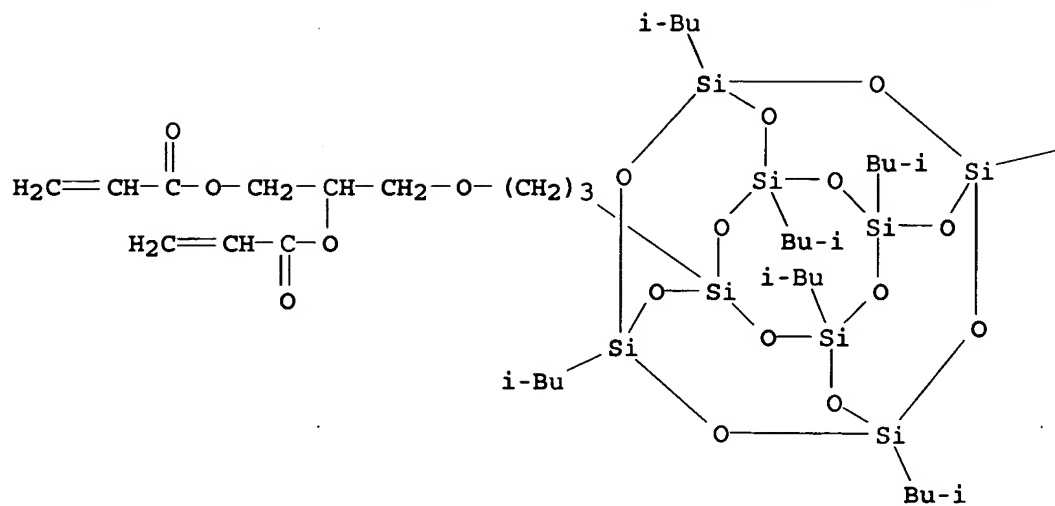
CN 2-Propenoic acid, 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propoxy]methyl]-1,2-ethanediyl ester, polymer with (chloromethyl)oxirane polymer with 4,4'-(1-methylethylidene)bis[phenol] di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 643018-04-6

CMF C40 H80 O17 Si8

PAGE 1-A



PAGE 1-B

— Bu-i

CM 2

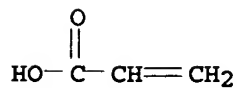
CRN 53814-24-7

CMF (C15 H16 O2 . C3 H5 Cl O)x . 2 C3 H4 O2

CM 3

CRN 79-10-7

CMF C3 H4 O2



CM 4

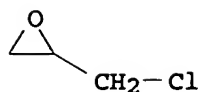
CRN 25068-38-6

CMF (C15 H16 O2 . C3 H5 Cl O)x

CCI PMS

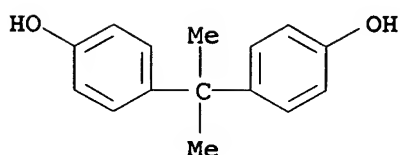
CM 5

CRN 106-89-8  
CMF C3 H5 Cl O



CM 6

CRN 80-05-7  
CMF C15 H16 O2



IC ICM G02F001-1339  
ICS C08F290-06; C08F299-08; C08G059-20; C09K003-10  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST polyhedral oligomeric silsesquioxane photocurable LCD sealant;  
POSS polymer photocurable sealing compn LCD; liq crystal  
panel acryloyloxy POSS photocurable sealant  
IT Epoxy resins, preparation  
(diamine-crosslinked; low-moisture-permeable and  
long-life photocurable sealants containing POSS derivs. for LCD  
sealing)  
IT 643018-05-7P  
(crosslinking agents; low-moisture-permeable and  
long-life photocurable sealants containing POSS derivs. for LCD  
sealing)  
IT 109144-76-5P 643018-07-9P 643018-08-0P  
643018-09-1P 643018-10-4P 643018-11-5P  
643018-12-6P 643023-21-6P 643023-22-7P  
643026-10-2P  
(low-moisture-permeable and long-life photocurable sealants  
containing POSS derivs. for LCD sealing)

L24 ANSWER 23 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:797025 HCAPLUS

DOCUMENT NUMBER: 139:299311

TITLE: Image display unit with touch panel

INVENTOR(S): Noguchi, Tomonori; Sugawara, Hideo; Satake,  
Masayuki

PATENT ASSIGNEE(S): Nitto Denko Corporation, Japan

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003083635	A1	20031009	WO 2003-JP4155	2003 0401
W: CN, US JP 2004005540	A2	20040108	JP 2003-97869	2003 0401
PRIORITY APPLN. INFO.:			JP 2002-101131	A 2002 0403

AB An image display unit with touch panel comprising a touch panel portion, the touch panel portion comprising an upper substrate, a lower substrate arranged opposite to the upper substrate and transparent electrodes formed on facing surfaces of the substrates, and a display panel portion, the lower substrate of the touch panel portion and a front surface portion of the display panel portion bonded to each other by means of a pressure sensitive adhesive layer, wherein the upper substrate and lower substrate of the touch panel portion are both constituted of a polymer film and wherein the pressure sensitive adhesive layer is constituted of a pressure sensitive adhesive comprising as a base polymer an acrylic polymer whose function group concentration is  $\leq 5 \times 10^{-4}$  mol/g. The image display unit with touch panel ensures excellent display quality and, even when, for example, bonding failure occurs, the display panel can be easily reutilized.

IT 25085-42-1D, Butyl acrylate-4-hydroxybutyl acrylate copolymer, reaction products with trimethylolpropane-tolylene diisocyanate copolymer 609358-77-2D, 6-Hydroxyhexyl acrylate-isooctyl acrylate copolymer, ether with  $\gamma$ -glycidoxypropyltrimethoxysilane (acrylic adhesive for attaching liquid crystal display and touch panel to ensure excellent display quality)

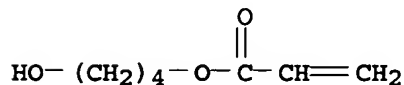
RN 25085-42-1 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 4-hydroxybutyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 2478-10-6

CMF C7 H12 O3

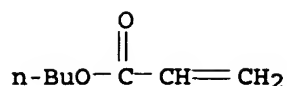


CM 2

CRN 141-32-2

CMF C7 H12 O2

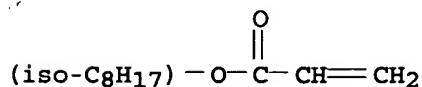




RN 609358-77-2 HCAPLUS  
 CN 2-Propenoic acid, 6-hydroxyhexyl ester, polymer with isooctyl  
 2-propenoate (9CI) (CA INDEX NAME)

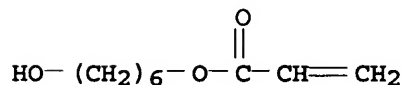
CM 1

CRN 29590-42-9  
 CMF C11 H20 O2  
 CCI IDS



CM 2

CRN 10095-14-4  
 CMF C9 H16 O3



IC ICM G06F003-033  
 ICS G02F001-1333  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 ST liq crystal display touch panel acrylic adhesive  
 IT Liquid crystal displays  
 (liquid crystal display with touch panel adhered by  
 acrylic adhesive)  
 IT 2530-83-8D,  $\gamma$ -Glycidoxypropyltrimethoxysilane, ether with  
 isooctyl acrylate-6-hydroxyhexyl acrylate copolymer 9017-09-8D,  
 Trimethylolpropane-tolylene diisocyanate copolymer, reaction  
 products with Bu acrylate-4-hydroxybutyl acrylate copolymer  
 25085-42-1D, Butyl acrylate-4-hydroxybutyl acrylate  
 copolymer, reaction products with trimethylolpropane-tolylene  
 diisocyanate copolymer 609358-77-2D, 6-Hydroxyhexyl  
 acrylate-isooctyl acrylate copolymer, ether with  
 $\gamma$ -glycidoxypropyltrimethoxysilane  
 (acrylic adhesive for attaching liquid crystal  
 display and touch panel to ensure excellent display  
 quality)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L24 ANSWER 24 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:607809 HCAPLUS  
 DOCUMENT NUMBER: 139:141095  
 TITLE: Phosphor-containing chromaticity compensator  
 for liquid crystal display panel  
 INVENTOR(S): Okuwaki, Daisaku  
 PATENT ASSIGNEE(S): Citizen Electronics Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003222861	A2	20030808	JP 2002-20794	2002 0129
PRIORITY APPLN. INFO.: JP 2002-20794				2002 0129

AB The compensator containing YAG phosphor is set at an optical path using a LED as a light source, and fluorescence of the phosphor excited by the LED light compensates the chromaticity of the LED light. The compensator may be formed by coating a polycarbonate or PMMA sheet with YAG phosphor-containing silicones. The compensator is suitable for a back light or front light of a color liquid crystal display to correct of chromaticity variation of white light from LED.

IT 9011-14-7, PMMA

(compensator substrate; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

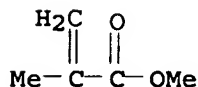
RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6

CMF C5 H8 O2



IC ICM G02F001-1335

ICS F21V008-00; G02B006-00; H01L033-00; F21Y101-02

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Polysiloxanes, uses

(YAG coated with; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT Color

Phosphors

(YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT Liquid crystal displays  
(color; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT Polycarbonates, uses  
(compensator substrate; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT Electroluminescent devices  
(white-emitting; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT 9011-14-7, PMMA  
(compensator substrate; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

IT 12005-21-9, YAG  
(phosphor; YAG phosphor-containing chromaticity compensator for liquid crystal display panel using LED as light source)

L24 ANSWER 25 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:867269 HCAPLUS

DOCUMENT NUMBER: 137:360411

TITLE: Transparent thermoplastic resin films having excellent dimensional stability after high temperature treatment and their application to organic EL device substrates or LCD substrates

INVENTOR(S): Hanada, Toru; Shiraishi, Isao; Uchiyama, Akihiko; Yatabe, Toshiaki

PATENT ASSIGNEE(S): Teijin Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002328614	A2	20021115	JP 2001-288624	2001 0921
PRIORITY APPLN. INFO.:			JP 2000-330283	A 2000 1030
			JP 2001-56437	A 2001 0301

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT

\*

AB The transparent film is formed by solvent casting of thermoplastic polymers with  $T_g \geq 170^\circ$ , and is characterized by that (i) the film has excellent optical isotropy, i.e., 3-dimensional refractive index satisfies the following formula A and B simultaneously;  $|R(550)| \leq 20$  (nm) [A;  $|R(550)|$  = in-plane retardation of the film toward 550-nm light] and  $K = |[nz - (nx + ny)/2] + d| \leq 100$  (nm) (B;  $nx, ny, nz$  = 3-dimensional refractive indexes of the film toward 550-nm light, z-axis being the film thickness direction), (ii) dimensional change after 2 h at  $150^\circ$  is  $\leq 0.05\%$ , (iii) saturated vapor absorption is  $\leq 0.4\%$ , and (iv) water vapor transmission rate at  $40^\circ$  and 90% RH is  $\leq 35$  g-100  $\mu\text{m}^2/\text{day}$ . The thermoplastic polymers are preferably composed of polycarbonates and/or polyesters. The thermoplastic polymers preferably have fluorene backbone-containing mer units. The thermoplastic polymers are preferably composed of 10-90 mol% fluorene backbone-containing mer units I ( $R_1, R_2$  = H, halo, C1-6 hydrocarbyl), preferably derived from fluorene-9,9-di(3-methyl-4-phenol), and polycarbonate units II ( $R_9$ - $R_{16}$  = H, halo, C1-6 hydrocarbyl; X = C1-15 hydrocarbylene). Preferably, the transparent film is, on a face with surface smoothness  $SRa \leq 10$  nm, laminated with an inorg. gas-barrier layer and a chemical-resistant layer. A transparent elec. conductive layer will be disposed on 1 face of the film. When connected with a printed circuit board by using HSC (heat-seal connector) and ACR (anisotropically elec. conductive film), the film has excellent connection reliability. When mounting the film on LCD device, deformation of spacers in the panel has been suppressed, hence LCD panel with uniform imaging characteristics can be obtained.

IT 272785-17-8

(gas-barrier layer; transparent thermoplastic resin films having excellent dimensional stability after high temperature treatment for organic EL device substrates or LCD substrates)

RN 272785-17-8 HCAPLUS

CN 2-Propenoic acid, (octahydro-4,7-methano-1H-indene-5,?-diyl)bis(methylene) ester, polymer with NK Oligo U 15HA (9CI) (CA INDEX NAME)

CM 1

CRN 161544-89-4

CMF Unspecified

CCI PMS, MAN

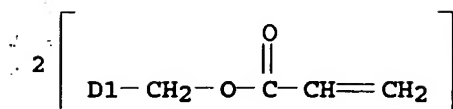
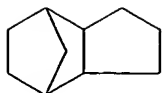
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 42594-17-2

CMF C18 H24 O4

CCI IDS



- IC ICM G09F009-00  
ICS C08J005-18; G02F001-1333; G09F009-30; G09F009-35; H05B033-02;  
H05B033-14; C08L101-00
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST transparent thermoplastic film flat panel display; org  
electroluminescent display substrate polycarbonate  
polyester; liq crystal display substrate polycarbonate  
polyester; fluorene polycarbonate transparent film display  
substrate
- IT Polycarbonates, uses  
(fluorene-containing; transparent thermoplastic resin films having  
excellent dimensional stability after high temperature treatment for  
organic EL device substrates or LCD substrates  
)
- IT Electroluminescent devices  
(organic; transparent thermoplastic resin films having excellent  
dimensional stability after high temperature treatment for organic EL  
device substrates or LCD substrates)
- IT Liquid crystal displays  
Transparent films  
(transparent thermoplastic resin films having excellent  
dimensional stability after high temperature treatment for organic EL  
device substrates or LCD substrates)
- IT Polycarbonates, uses  
Polyesters, uses  
(transparent thermoplastic resin films having excellent  
dimensional stability after high temperature treatment for organic EL  
device substrates or LCD substrates)
- IT Silsesquioxanes  
(transparent thermoplastic resin films having excellent  
dimensional stability after high temperature treatment for organic EL  
device substrates or LCD substrates)
- IT 7440-31-5, Tin, uses  
(dopant, ITO transparent electrode; transparent thermoplastic  
resin films having excellent dimensional stability after high  
temperature treatment for organic EL device substrates or LCD  
substrates)
- IT 7631-86-9, Silica, uses 25067-34-9, Eval 272785-17-8  
(gas-barrier layer; transparent thermoplastic resin films  
having excellent dimensional stability after high temperature  
treatment for organic EL device substrates or  
LCD substrates)
- IT 1312-43-2, Indium oxide  
(tin-doped, ITO transparent electrode; transparent

thermoplastic resin films having excellent dimensional stability after high temperature treatment for organic EL device substrates or LCD substrates)

IT 50926-11-9, ITO

(transparent electrode; transparent thermoplastic resin films having excellent dimensional stability after high temperature treatment for organic EL device substrates or LCD substrates)

IT 80-05-7DP, 2,2-Bis(4-hydroxyphenyl)propane, polycarbonate with 9,9-Bis(4-hydroxy-3-methylphenyl)fluorene 88938-12-9DP, 9,9-Bis(4-hydroxy-3-methylphenyl)fluorene, polycarbonate with 2,2-bis(4-hydroxyphenyl)propane

(transparent thermoplastic resin films having excellent dimensional stability after high temperature treatment for organic EL device substrates or LCD substrates)

IT 198765-74-1

(transparent thermoplastic resin films having excellent dimensional stability after high temperature treatment for organic EL device substrates or LCD substrates)

L24 ANSWER 26 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:357371 HCAPLUS

DOCUMENT NUMBER: 137:132016

TITLE: Single-substrate liquid-crystal displays by photo-enforced stratification

AUTHOR(S): Penterman, R.; Klink, S. I.; de Koning, H.; Nisato, G.; Broer, D. J.

CORPORATE SOURCE: Philips Research Laboratories, Eindhoven, 5656 AA, Neth.

SOURCE: Nature (London, United Kingdom) (2002), 417(6884), 55-58

CODEN: NATUAS; ISSN: 0028-0836

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Data visualization plays a crucial role in our society, as illustrated by the many displays that surround us. In the future, displays may become even more pervasive, ranging from individually addressable image-rendering wall hangings to data displays integrated in clothes. Liquid-crystal displays (LCDs) provide most of the flat-panel displays currently used. To keep pace with the ever-increasing possibilities afforded by developments in information technol., we need to develop manufacturing processes that will make LCDs cheaper and larger, with more freedom in design. Existing batch processes for making and filling LCD cells are relatively expensive, with size and shape limitations. Here a cost-effective, single-substrate technique is reported in which a coated film is transformed into a polymer-covered liquid-crystal layer. This approach is based on photo-enforced stratification: a two-step photopolymn.-induced phase separation of a liquid-crystal blend and a polymer precursor. The process leads to the formation of micrometer-sized containers filled with a switchable liquid-crystal phase. In this way, displays can be produced on a variety of substrates using current coating technol. The developed process may be an important step towards new technologies such as 'display-on-anything' and 'paintable displays'.

IT 64114-51-8, Polyisobornylmethacrylate 444344-35-8

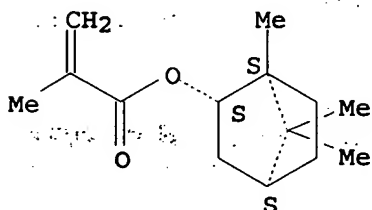
(single-substrate liquid-crystal displays by photo-enforced stratification)

RN 64114-51-8 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, (1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, rel-, homopolymer (9CI)  
 (CA INDEX NAME)

CM 1

CRN 7534-94-3  
 CMF C14 H22 O2

Relative stereochemistry.



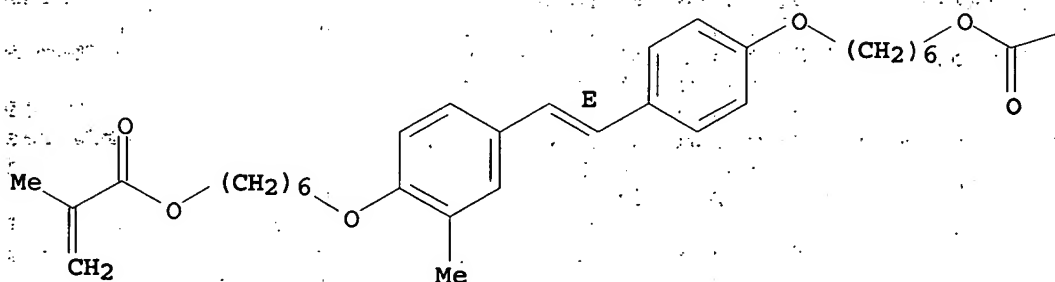
RN 444344-35-8 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 6-[4-[(1E)-2-[3-methyl-4-[[6-[(2-methyl-1-oxo-2-propenyl)oxy]hexyl]oxy]phenyl]ethenyl]phenoxy]hexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

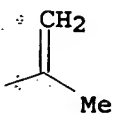
CRN 432050-54-9  
 CMF C35 H46 O6

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38

ST single substrate liq crystal display polymer  
photoinduced stratification

IT Liquid crystal displays  
(single-substrate liquid-crystal displays by  
photo-enforced stratification)

IT 63748-28-7, E7  
(E7; single-substrate liquid-crystal displays by  
photo-enforced stratification)

IT 24650-42-8, Irgacure 651  
(Irgacure 651; single-substrate liquid-crystal displays  
by photo-enforced stratification)

IT 64114-51-8, Polyisobornylmethacrylate 444344-35-8  
(single-substrate liquid-crystal  
displays by photo-enforced stratification)

IT 7534-94-3, Isobornylmethacrylate 432050-54-9  
(single-substrate liquid-crystal displays by  
photo-enforced stratification)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L24 ANSWER 27 OF 52 HCAPLUS. COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:101147 HCAPLUS

DOCUMENT NUMBER: 136:142732

TITLE: Circularly polarizer plate, inner type touch  
panel and reflection liquid crystal  
display.

INVENTOR(S): Ito, Yoji

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002040243	A2	20020206	JP 2000-219542	2000 0719
PRIORITY APPLN. INFO.: JP 2000-219542				2000 0719

AB The invention relates to a circularly polarizer plate used in an inner type touch panel on a reflection liquid crystal display, wherein the circularly polarizer plate comprises a transparent substrate film containing a hard coat polyester film (having a surface elasticity of 5-15 GPa), a polarizer plate, and a  $\lambda/4$  polymer plate showing a retardation value (Re450) of 100-125 nm and a retardation value (Re590) of 120-160 nm. The inner type touch panel shows improved antistatic properties and durability. The liquid crystal display shows improved high contrast and wide viewing angle.

IT 88583-06-6P, Kayarad DPHA homopolymer  
(hard coat film; circularly polarizer plate in inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal



display)  
 RN 88583-06-6 HCAPLUS  
 CN 2-Propenoic acid, ester with 2,2'-[oxybis(methylene)]bis[2-(hydroxymethyl)-1,3-propanediol], homopolymer (9CI) (CA INDEX NAME)

CM 1

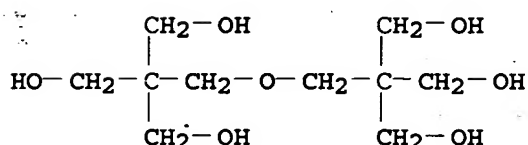
CRN 77641-99-7

CMF C10 H22 O7 . x C3 H4 O2

CM 2

CRN 126-58-9

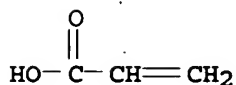
CMF C10 H22 O7



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02B005-30  
 ICS G02B001-10; G02F001-1333; G02F001-1335; G02F001-1336;  
 G06F003-033  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 73, 76  
 ST circularly polarizer plate inner touch panel liq crystal  
 display  
 IT Electric conductors  
 Electric switches  
 Polarizers  
 (circularly polarizer plate in inner type touch panel  
 showing improved antistatic properties and durability for  
 reflection liquid crystal display)  
 IT Liquid crystal displays  
 (reflection; circularly polarizer plate in inner type touch  
 panel showing improved antistatic properties and  
 durability for reflection liquid crystal display)  
 IT Optical instruments  
 (retarders; circularly polarizer plate in inner type touch  
 panel showing improved antistatic properties and  
 durability for reflection liquid crystal display)  
 IT Polyesters, processes  
 (transparent substrate; circularly polarizer plate in

- inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal display)
- IT 88583-06-6P, Kayarad DPHA homopolymer  
(hard coat film; circularly polarizer plate in inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal display)
- IT 82504-70-9  
(retardation promoting agent; circularly polarizer plate in inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal display)
- IT 25038-59-9P, Dimethyl terephthalate-ethylene glycol copolymer, processes  
(transparent substrate; circularly polarizer plate in inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal display)
- IT 9004-35-7, Cellulose acetate  
( $\lambda/4$  plate; circularly polarizer plate in inner type touch panel showing improved antistatic properties and durability for reflection liquid crystal display)

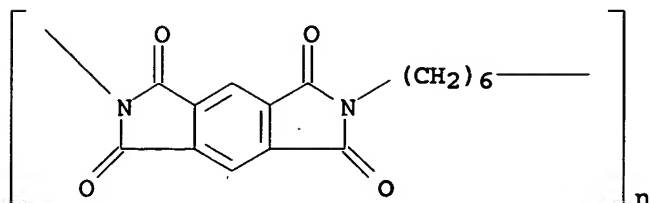
L24 ANSWER 28 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:864907 HCAPLUS  
DOCUMENT NUMBER: 136:12973  
TITLE: Field-sequential color liquid crystal display  
INVENTOR(S): Isobu, Ryuichiro; Miura, Kiyoshi; Asao, Yasushi  
PATENT ASSIGNEE(S): Canon Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001330863	A2	20011130	JP 2000-148830	2000 0519
PRIORITY APPLN. INFO.:			JP 2000-148830	2000 0519

- AB The apparatus is equipped with a color filter-free liquid-crystal panel and a synchronizing light source to give 3 colors, where (1) the panel contains a chiral smectic liquid crystal exhibiting a phase transition series on temperature decrease of isotropic liquid phase-cholesteric phase-chiral smectic C phase or of isotropic liquid phase-chiral smectic C phase and (2) the light source has a brightness control circuit to give color temperature of white light 4300-6500K. The apparatus is obtained at low cost.
- IT 25667-69-0, 1,6-Hexamethylenediamine-pyromellitic dianhydride copolymer, sru 25668-09-1, 1,6-Hexamethylenediamine-pyromellitic dianhydride copolymer (substrate; field-sequential color chiral smectic liquid crystal display)
- RN 25667-69-0 HCAPLUS
- CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-

2,6(1H,3H)-diyl]-1,6-hexanediyl] (9CI) (CA INDEX NAME)



RN 25668-09-1 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 124-09-4

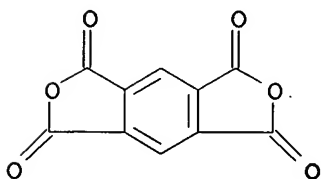
CMF C6 H16 N2

H<sub>2</sub>N-(CH<sub>2</sub>)<sub>6</sub>-NH<sub>2</sub>

CM 2

CRN 89-32-7

CMF C10 H2 O6



IC ICM G02F001-141

ICS G02F001-133; G02F001-1335; G09F009-00; G09G003-20; G09G003-34; G09G003-36

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Polyimides, uses  
(substrate; field-sequential color chiral smectic liquid crystal display)

IT 25667-69-0, 1,6-Hexamethylenediamine-pyromellitic dianhydride copolymer, sru 25668-09-1, 1,6-Hexamethylenediamine-pyromellitic dianhydride copolymer  
(substrate; field-sequential color chiral smectic liquid crystal display)

L24 ANSWER 29 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

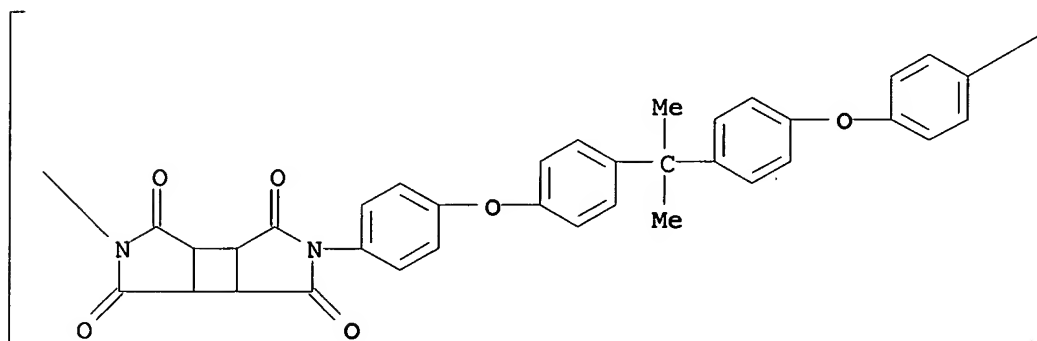
ACCESSION NUMBER: 2001:815573 HCAPLUS

DOCUMENT NUMBER: 136:142506

TITLE: Observation of an optical anisotropy of rubbed polyimide film on actual LCD panel

AUTHOR(S): Itoh, Satoshi; Hirose, Ichiro

PAGE 1-A



PAGE 1-B

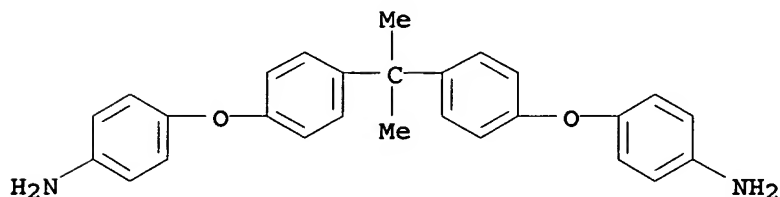
In

RN 95627-32-0 HCAPLUS  
CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with  
4,4'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bis[benzenamine]  
(9CI) (CA INDEX NAME)

CM 1

CRN 13080-86-9

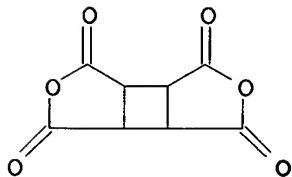
CMF C27 H26 N2 O2



CM 2

CRN 4415-87-6

CMF C8 H4 O6



CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

IT Aluminoborosilicate glasses  
(barium aluminoborosilicate; optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

IT Ellipsometry  
Friction

Liquid crystal displays

Molecular orientation

Optical anisotropy

Orientalional order

(optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

IT Polyimides, properties

(polyether-, PI-A, alignment layer; optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

IT Polyethers, properties

(polyimide-, PI-A, alignment layer; optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

IT Optical filters

Thin film transistors

(substrate; optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

IT 95626-77-0 95627-32-0

(PI-A, alignment layer; optical anisotropy of rubbed polyimide alignment film on liquid crystal display panel evaluated by reflection ellipsometry)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 30 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:673567 HCAPLUS

DOCUMENT NUMBER: 135:218820

TITLE: Bend-mode liquid crystal element having optical retardation plate

INVENTOR(S): Sato, Koichi; Okada, Shinjiro; Tsuboyama, Akira; Munakata, Hirohide; Hanyu, Yukio; Asao, Yasushi

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001249335	A2	20010914	JP 2000-62893	2000 0308

PRIORITY APPLN. INFO.: JP 2000-62893

2000  
0308

AB The liquid crystal element is composed of (1) a liquid crystal panel comprising a liquid crystal showing bend alignment sandwiched between a pair of substrates with electrodes and (2) an optical retarder comprising a monoaxially oriented polymer liquid crystal film which compensates the phase difference of the view from the front and an optical retardation plate

satisfying  $[(n_x + n_y)/2 - n_z] + d > 0$  ( $d$  = thickness of the optical retardation plate). The optical retarder satisfying the above equation may comprise two monoaxially oriented polymer liquid crystal layers having different phase differences and crosswise laminated. Uniform and large optical retardation plate is obtained and the bend-mode liquid crystal element shows high contrast and wide viewing angle.

IT 105935-13-5 358641-47-1

(bend-mode liquid crystal element having optical retardation plate made of monoaxially oriented polymer liquid crystal)

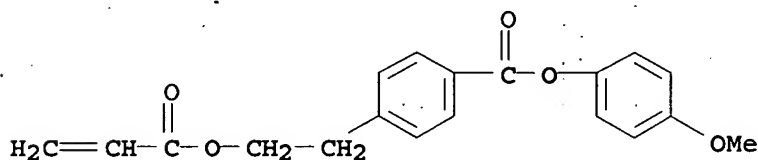
RN 105935-13-5 HCAPLUS

CN Benzoic acid, 4-[2-[(1-oxo-2-propenyl)oxy]ethyl]-, 4-methoxyphenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 105935-12-4

CMF C19 H18 O5



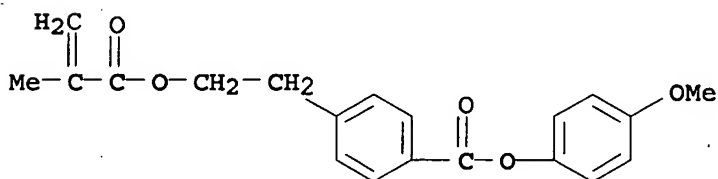
RN 358641-47-1 HCAPLUS

CN Benzoic acid, 4-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]-, 4-methoxyphenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 358641-46-0

CMF C20 H20 O5



IC ICM G02F001-1336

ICS C09K019-38; G02F001-1337; G02F001-1368

CC 74-13 (Radiation Chemistry, Photochemistry, and

Photographic and Other Reprographic Processes)

Section cross-reference(s): 73, 75

IT 105935-13-5 358641-47-1

(bend-mode liquid crystal element having optical retardation plate made of monoaxially oriented polymer liquid crystal)

L24 ANSWER 31 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:569592 HCAPLUS

DOCUMENT NUMBER: 135:160199

TITLE: Printing ink, ink-jet printing method,  
manufacture of color filter, film-forming ink,  
manufacture of liquid crystal display  
panel, and the display panel

INVENTOR(S): Hirose, Masashi

PATENT ASSIGNEE(S): Canon Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

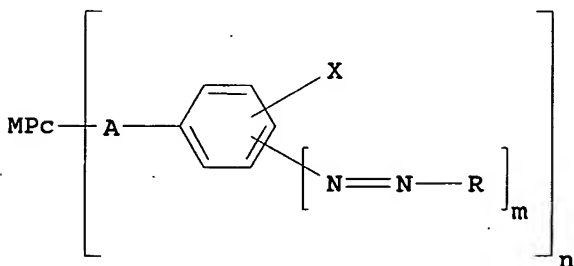
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001214096	A2	20010807	JP 2000-22427	2000 0131
PRIORITY APPLN. INFO.:			JP 2000-22427	2000 0131

OTHER SOURCE(S): MARPAT 135:160199  
GI



I

AB The ink contains a phthalocyanine-type colorant I [involving  $\geq 2$  sulfonate (salt) structure; Pc = phthalocyanine backbone; M = 2 Na, 2 Li, divalent metal, tri- or tetravalent metal derivative; X = H, sulfone, sulfonamide, carboxyl, NO<sub>2</sub>, halogen, (substituted) alkyl, alkoxy, aryl; A = O, S; R = (substituted) aryl, (substituted) 5- or 6-membered aromatic heterocycle; m = 0, 1; n = 1-4] and a water-soluble organic solvent, which is used in ink-jet printing. The film-forming ink contains I, a water-soluble organic solvent, and a film-forming component, which is converted to a film by heating and/or irradiation. The color filter is manufactured by forming plurality of color picture elements using the above inks by ink-jet printing. The liquid crystal display panel is that manufactured by the claimed process using the color filter. The ink showing good extrusion from nozzle in ink-jet printing provides the color filter with good adhesion to substrate and high contrast.

IT 219679-25-1P, Acrylic acid-N,N-dimethylaminoethyl



methacrylate-2-hydroxyethyl methacrylate-methyl  
methacrylate-N-methylolacrylamide copolymer  
(jet-printing ink containing phthalocyanine colorant for manufacture of  
color filter for liquid crystal display  
devices)

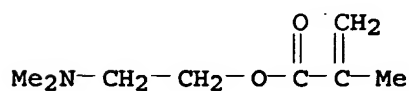
RN 219679-25-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer  
with 2-hydroxyethyl 2-methyl-2-propenoate, N-(hydroxymethyl)-2-  
propenamide, methyl 2-methyl-2-propenoate and 2-propenoic acid  
(9CI) (CA INDEX NAME)

CM 1

CRN 2867-47-2

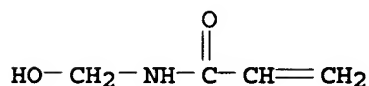
CMF C8 H15 N O2



CM 2

CRN 924-42-5

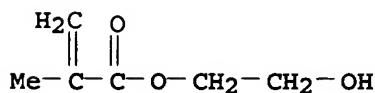
CMF C4 H7 N O2



CM 3

CRN 868-77-9

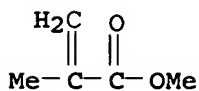
CMF C6 H10 O3



CM 4

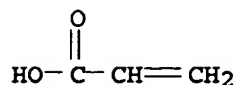
CRN 80-62-6

CMF C5 H8 O2



CM 5

CRN 79-10-7  
CMF C3 H4 O2



IC ICM C09D011-00  
ICS B41J002-01; B41M005-00; G02B005-20; G02F001-1335  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 42  
IT 219679-25-1P, Acrylic acid-N,N-dimethylaminoethyl  
methacrylate-2-hydroxyethyl methacrylate-methyl  
methacrylate-N-methylolacrylamide copolymer  
(jet-printing ink containing phthalocyanine colorant for manufacture of  
color filter for liquid crystal display  
devices)

L24 ANSWER 32 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:98617 HCAPLUS  
DOCUMENT NUMBER: 134:155319  
TITLE: TFT liquid-crystal display panels  
INVENTOR(S): Mori, Shigeru  
PATENT ASSIGNEE(S): NEC Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001033769	A2	20010209	JP 1999-210730	1999 0726

PRIORITY APPLN. INFO.: JP 1999-210730

1999  
0726

AB The display panels, in which liquid crystals are sealed  
between TFT substrates and color filter  
substrates and polarizers are laminated, have  
stress-relaxation layers comprising polyesters, polyethylene,  
poly(Me methacrylate), or polycarbonates. The display  
panels show no deformation of substrates and no  
display unevenness because of uniformity of cell gap.

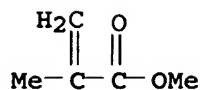
IT 9011-14-7, Poly(methyl methacrylate)  
(TFT LCD panels with polymer  
stress-relaxation layers offering uniform cell gaps)

RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA  
INDEX NAME)

CM 1

CRN 80-62-6  
CMF C5 H8 O2



IC ICM G02F001-1335  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST liq crystal display panel stress relaxation; polyester  
stress relaxation layer liq crystal display; polyethylene stress  
relaxation layer liq crystal display; polymethyl methacrylate  
stress relaxation layer LCD; polycarbonate stress relaxation layer  
liq crystal display  
IT Liquid crystal displays  
(TFT LCD panels with polymer stress-relaxation layers  
offering uniform cell gaps)  
IT Polycarbonates, uses  
Polyesters, uses  
(TFT LCD panels with polymer stress-relaxation layers  
offering uniform cell gaps)  
IT 9002-88-4, Polyethylene 9011-14-7, Poly(methyl  
methacrylate)  
(TFT LCD panels with polymer  
stress-relaxation layers offering uniform cell gaps)

L24 ANSWER 33 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2000:876962 HCAPLUS  
DOCUMENT NUMBER: 134:63956  
TITLE: Aromatic polycarbonate substrates  
for liquid crystal display panels  
INVENTOR(S): Yahata, Kazuo; Kushida, Takashi  
PATENT ASSIGNEE(S): Teijin Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000347170	A2	20001215	JP 1999-162251	1999 0609
PRIORITY APPLN. INFO.:				1999 0609

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT  
\*

AB The **substrates** comprise polycarbonates of limiting viscosity 0.15-2.0 dL/g and (A) having structural repeating unit I (R1-8 = H, halogen, C1-6 hydrocarbon; X = C1-15 hydrocarbon; X  $\neq$  isopropylidene when R1-8 = H), especially I (X = CMe<sub>2</sub>; at least one of R1-8 is not H) or (B) copolymers having structural repeating units II and 30-99 mol% I, III, or IV. The **substrates** are especially suitable for lightwt., thin, large, or curved displays used for pagers, mobile phones, and personal digital assistances. Heat-resistant display **panels** giving high-quality clear images are obtained from the **substrates**.

IT 132721-26-7

(Apec HT; aromatic polycarbonate **substrates** for preparation of heat-resistant **liquid crystal displays**)

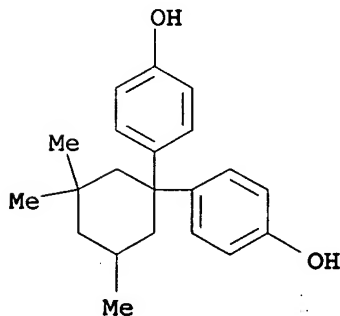
RN 132721-26-7 HCAPLUS

CN Carbonic acid, polymer with 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-(3,3,5-trimethylcyclohexylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 129188-99-4

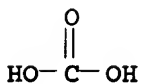
CMF C21 H26 O2



CM 2

CRN 463-79-6

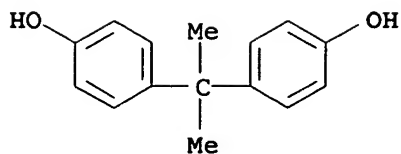
CMF C H2 O3



CM 3

CRN 80-05-7

CMF C15 H16 O2



IT 29008-27-3P 38797-88-5P 122658-87-1P  
172682-69-8P

(aromatic polycarbonate substrates for preparation of  
heat-resistant liquid crystal displays)

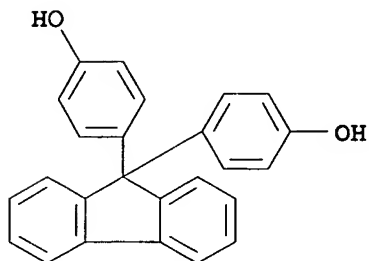
RN 29008-27-3 HCAPLUS

CN Carbonic dichloride, polymer with 4,4'-(9H-fluoren-9-ylidene)bis[phenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI)  
(CA INDEX NAME)

CM 1

CRN 3236-71-3

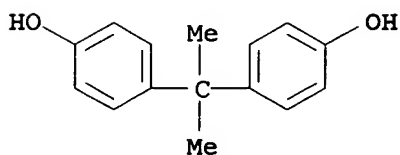
CMF C25 H18 O2



CM 2

CRN 80-05-7

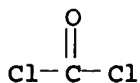
CMF C15 H16 O2



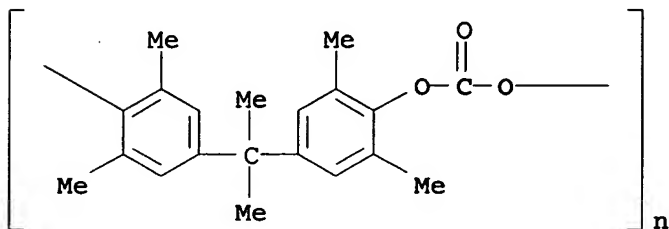
CM 3

CRN 75-44-5

CMF C C12 O



RN 38797-88-5 HCAPLUS  
 CN Poly[oxy carbonyloxy(2,6-dimethyl-1,4-phenylene)(1-methylethylidene)(3,5-dimethyl-1,4-phenylene)] (9CI) (CA INDEX NAME)

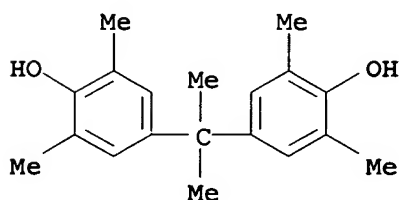


RN 122658-87-1 HCAPLUS  
 CN Carbonic acid, diphenyl ester, polymer with 4,4'-(1-methylethylidene)bis[2,6-dimethylphenol] (9CI) (CA INDEX NAME)

CM 1

CRN 5613-46-7

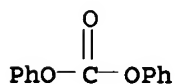
CMF C19 H24 O2



CM 2

CRN 102-09-0

CMF C13 H10 O3

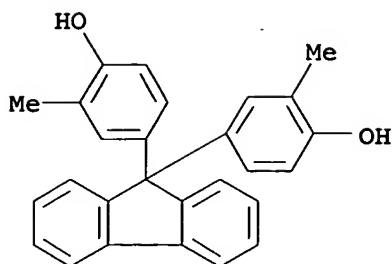


RN 172682-69-8 HCAPLUS  
 CN Carbonic dichloride, polymer with 4,4'-(9H-fluoren-9-ylidene)bis[2-methylphenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

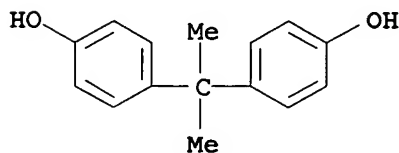
CRN 88938-12-9

CMF C27 H22 O2



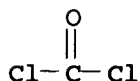
CM 2

CRN 80-05-7  
CMF C15 H16 O2



CM 3

CRN 75-44-5  
CMF C Cl2 O



IC ICM G02F001-1333  
ICS C08G064-06  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
ST arom polycarbonate **substrate** liq crystal display; heat  
resistant arom polycarbonate LCD **substrate**; personal  
digital assistance LCD polycarbonate **substrate**  
IT Liquid crystal displays  
(aromatic polycarbonate **substrates** for preparation of  
heat-resistant liquid crystal displays)  
IT 132721-26-7  
(Apec HT; aromatic polycarbonate **substrates** for preparation  
of heat-resistant liquid crystal displays)  
IT 29008-27-3P 38797-88-5P 122658-87-1P  
172682-69-8P  
(aromatic polycarbonate **substrates** for preparation of  
heat-resistant liquid crystal displays)

L24 ANSWER 34 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2000:831597 HCAPLUS  
DOCUMENT NUMBER: 134:123482

TITLE: Evaluation of structural and adhesive properties of Nylon 6 and PTFE alignment films by means of atomic force microscopy

AUTHOR(S): Padeletti, G.; Pergolini, S.; Montesperelli, G.; D'Alessandro, A.; Campoli, F.; Maltese, P.

CORPORATE SOURCE: CNR-Istituto di Chimica dei Materiali, Rome, 00016, Italy

SOURCE: Applied Physics A: Materials Science & Processing (2000), 71(5), 571-576  
CODEN: APAMFC; ISSN: 0947-8396

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

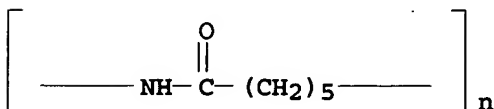
LANGUAGE: English

AB Atomic force microscopy (AFM) has become a powerful technique for submicron investigation of surface properties. In this work the authors used the capability of this technique to investigate dielec. films used to align ferroelec. liquid crystals (FLC). In fact, the final performance of a surface stabilized FLC (SSFLC) flat panel display strongly depends on the alignment layer properties and quality. This work focuses on a comparison of two alignment films: the more conventional polyamide, Nylon 6, and poly(tetrafluoroethylene) (PTFE, com. known as Teflon), only recently used as a new aligning material. A micromorphol. characterization of the sample surfaces has been carried out in order to correlate structure with alignment properties of both polymer films. The results show varying roughness and periodicity wavelengths for the two alignment layers. These different properties can be related to different anchoring forces between aligning surfaces and FLC mols. and therefore to a different electrooptical response of SSFLC cells. In addition to the topog. characterization, AFM non-conventional measurements have been performed on alignment layers deposited on different transparent conductive oxides, such as indium tin oxide (ITO) and SnO<sub>2</sub>, used to make electrodes in SSFLC displays. These measurements provide local information on the adhesive properties of the studied alignment materials as a function of substrate coating. These observations indicate less adhesion of PTFE with respect to Nylon 6.

IT 25038-54-4, Nylon 6, properties  
(structural and adhesive properties of Nylon 6 and Teflon liquid crystal alignment films by atomic force microscopy)

RN 25038-54-4 HCAPLUS

CN Poly[imino(1-oxo-1,6-hexanediyl)] (9CI) (CA INDEX NAME)



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 9002-84-0, Teflon 25038-54-4, Nylon 6, properties  
(structural and adhesive properties of Nylon 6 and Teflon liquid crystal alignment films by atomic force microscopy)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE

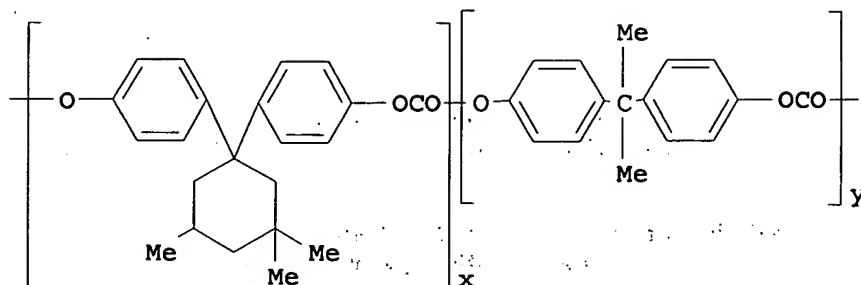


## IN THE RE FORMAT

L24 ANSWER 35 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:765548 HCAPLUS  
 DOCUMENT NUMBER: 133:342574  
 TITLE: Composition of amorphous thermoplastic resin  
 and low-molecular-weight vinyl polymer for  
 optical film  
 INVENTOR(S): Awaji, Hiroshi; Kawabata, Yusuke; Tanaka,  
 Katsuyuki  
 PATENT ASSIGNEE(S): Kanegafuchi Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000302988	A2	20001031	JP 1999-115560	1999 0422
PRIORITY APPLN. INFO.: JP 1999-115560				1999 0422

GI



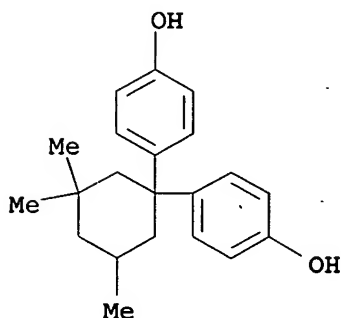
AB The composition consists of an amorphous thermoplastic resin and 0.1-30% of a vinyl-type polymer having number average mol. weight 200-10,000 and the composition is used as an optical film, especially, a phase-difference films. Alternatively, a transparent elec. conductor film is formed on  $\geq 1$  side of the optical film and the resulting transparent elec. conductor film is used as an electrode substrate in a liquid crystal display device or in a touch panel. The optical film with small photoelastic coefficient is laminated with a polarizer plate and provides uniform images on the liquid crystal display without being affected by stress corresponding to difference of expansion or shrinkage between the film and the polarizer.

IT 132721-26-7 138005-52-4  
 (amorphous thermoplastic resin containing low-mol.-weight vinyl polymer for optical film for liquid crystal display)

RN 132721-26-7 HCAPLUS  
 CN Carbonic acid, polymer with 4,4'-(1-methylethylidene)bis[phenol]  
 and 4,4'-(3,3,5-trimethylcyclohexylidene)bis[phenol] (9CI) (CA  
 INDEX NAME)

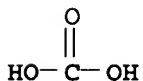
CM 1

CRN 129188-99-4  
 CMF C21 H26 O2



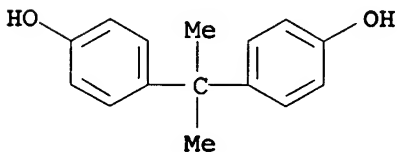
CM 2

CRN 463-79-6  
 CMF C H2 O3



CM 3

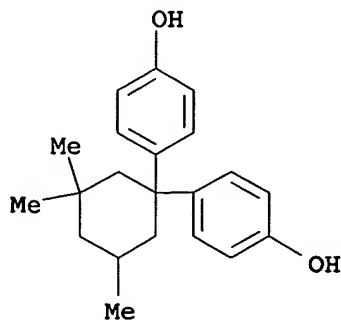
CRN 80-05-7  
 CMF C15 H16 O2



RN 138005-52-4 HCAPLUS  
 CN Carbonic acid, polymer with 4,4'-(3,3,5-  
 trimethylcyclohexylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

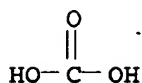
CRN 129188-99-4  
 CMF C21 H26 O2



CM 2

CRN 463-79-6

CMF C H2 O3



IC ICM C08L101-16  
 ICS C08L069-00; C08L087-00; G02B001-04; G02B005-30; G02F001-1335;  
 G06F003-033; C08L101-16; C08L057-00; C08L025-06; C08L025-04;  
 C08L033-06; C08L033-20; C08L035-00; C08L031-00

CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 73

ST amorphous thermoplastic resin blend optical film; low mol vinyl  
 polymer blend; liq crystal display device electrode film; touch  
 panel transparent elec conductor film

IT 132721-26-7 138005-52-4  
 (amorphous thermoplastic resin containing low-mol.-weight vinyl  
 polymer for optical film for liquid crystal  
 display)

L24 ANSWER 36 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:398984 HCAPLUS

DOCUMENT NUMBER: 133:51350

TITLE: Liquid crystal cell containing polyimide and  
fluorocyanoester liquid crystalINVENTOR(S): Ihara, Satoshi; Iguchi, Shinsuke; Shigemura,  
Masahide

PATENT ASSIGNEE(S): Optrex K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000162605	A2	20000616	JP 1998-340700	1998

PRIORITY APPLN. INFO.:

JP 1998-340700

1130

1998

1130

OTHER SOURCE(S): MARPAT 133:51350

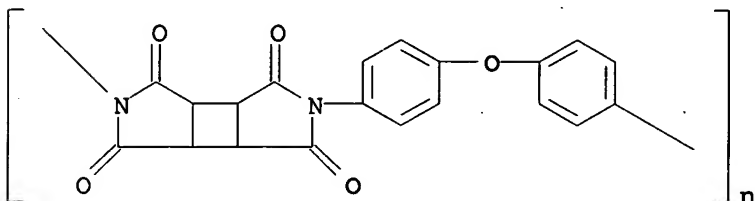
AB The cell has a fluorocyanoester-based nematic liquid crystal sandwiched between a pair of transparent resin panel substrates successively coated with a gas barrier layer, a transparent electrode, and an orientation film containing a polymer comprising a cycloalkane ring-containing acid anhydride and a diamine. The cell shows excellent display properties in repeated use. The cell is useful for low-voltage driving.

IT 95626-76-9 95627-30-8 275363-82-1  
275365-26-9

(orientation film; nematic liquid crystal  
cell containing polyimide and fluorocyanoester)

RN 95626-76-9 HCAPLUS

CN Poly[(octahydro-1,3,4,6-tetraoxocyclobuta[1,2-c:3,4-c']dipyrrole-2,5-diyl)-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



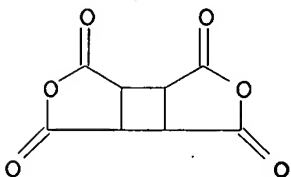
RN 95627-30-8 HCAPLUS

CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 4415-87-6

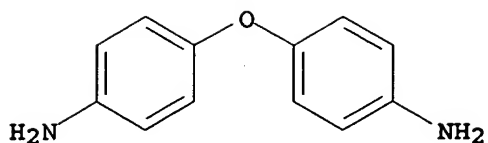
CMF C8 H4 O6



CM 2

CRN 101-80-4

CMF C12 H12 N2 O



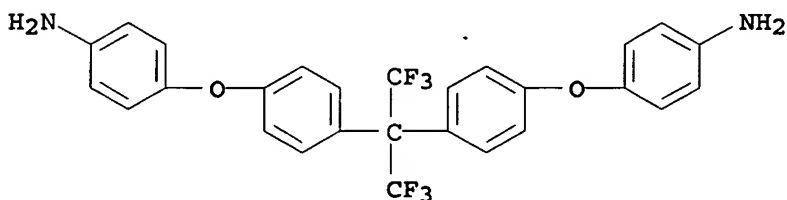
RN 275363-82-1 HCAPLUS

CN 1H-Cyclopenta[1,2-c:3,4-c']difuran-1,3,4,6(3aH)-tetrone,  
tetrahydro-, polymer with 4,4'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy)]bis[benzenamine]  
(9CI) (CA INDEX NAME)

CM 1

CRN 69563-88-8

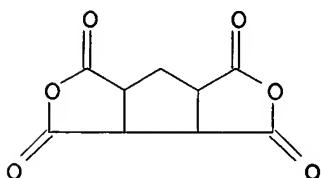
CMF C27 H20 F6 N2 O2



CM 2

CRN 6053-68-5

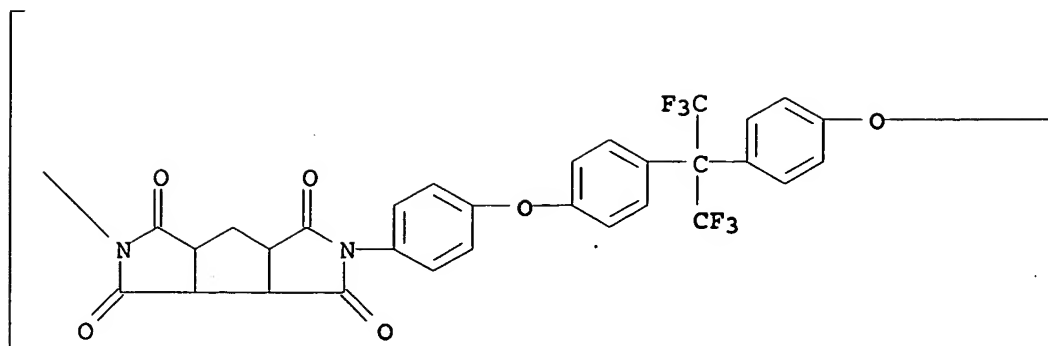
CMF C9 H6 O6



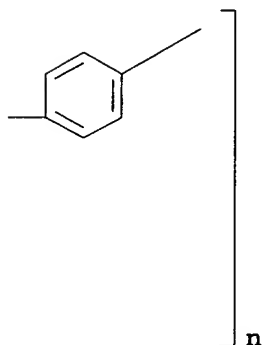
RN 275365-26-9 HCAPLUS

CN Poly[(octahydro-1,3,4,6-tetraoxo-1H-cyclopenta[1,2-c:3,4-c']dipyrrole-2,5-diyl)-1,4-phenyleneoxy-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G02F001-1337  
 ICS C08G073-10; C09K019-20; G02F001-13; G02F001-1333  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38, 75  
 IT 95626-76-9 95627-30-8 275363-82-1  
 275365-26-9  
 (orientation film; nematic liquid crystal  
 cell containing polyimide and fluorocyanoester)

L24 ANSWER 37 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:157069 HCAPLUS

DOCUMENT NUMBER: 130:244518

TITLE: Liquid-crystal display device and its  
 manufacture

INVENTOR(S): Wakita, Naohide

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd.,  
 Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11064831	A2	19990305	JP 1997-227834	1997 0825
JP 3216584	B2	20011009	JP 1997-227834	1997 0825

PRIORITY APPLN. INFO.: .

AB The device has a liquid-crystal layer containing a dichroic dye showing large and small optical absorption according to application voltage, in which if the dye shows small optical absorption, then the layer shows strong optical diffraction and if the dye shows large optical absorption, then the layer shows weak optical diffraction. The device has **substrates** sandwiching a dichroic dye-containing liquid crystal layer having a host-guest liquid crystal region and a liquid crystalline polymer region, in which mesogen groups in the polymer and the host-guest liquid crystal mols. are oriented in the same direction. The device has **substrates** sandwiching a liquid crystal layer containing a dichroic dye-containing host-guest-type liquid crystal, in which fine regions with different orientation are dispersed in a face adjacent to at least one of the **substrates**. The manufacture method involves (1) inserting the crystal and a liquid-crystal monomer into an orientation film-formed liquid crystal cell and (2) polymerizing the monomer. The method involves (1) applying the monomer on a **substrate** having an orientation film, selectively polymerizing the monomer, and removing a residual monomer to form a polymer region on the **substrate** and (2) sealing **substrates** (facing the former **substrate**) with the crystal. The method involves (1) forming an orientation film on a **substrate**, (2) forming microdomains with different pretilt angle from their surrounding domains, and (3) sealing **substrates** (facing the former **substrate**) with the crystal. The device is useful for a polarizing plate-free reflective liquid-crystal display panel. The device shows high contrast and wider view angle.

IT 125337-32-8P, 4,4'-Bis(6-acryloyloxyhexyloxy)biphenyl homopolymer

(reflective host-guest liquid-crystal display device)

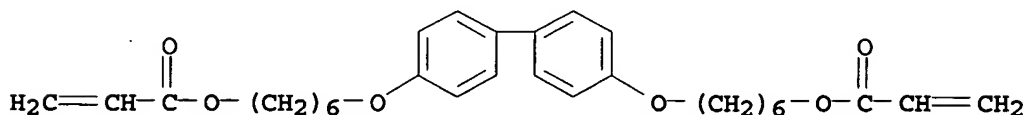
RN 125337-32-8 HCAPLUS

CN 2-Propenoic acid, [1,1'-biphenyl]-4,4'-diylbis(oxy-6,1-hexanediyl) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 125337-31-7

CMF C30 H38 O6



IC ICM G02F001-1333  
 ICS C09K019-60; G02F001-1335; G02F001-1337; G02F001-137  
 CC 74-12 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST liq crystal display panel host guest  
 IT 125337-32-8P, 4,4'-Bis(6-acryloyloxyhexyloxy)biphenyl  
 homopolymer  
 (reflective host-guest liquid-crystal display  
 device)

L24 ANSWER 38 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:119206 HCAPLUS

DOCUMENT NUMBER: 128:210969

TITLE: Liquid-crystal device having polyimide layer  
 and display with high driving stability using  
 it

INVENTOR(S): Nakazawa, Ikuo; Terada, Tadahiro; Asaoka,  
 Masanobu; Shimizu, Yasushi

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

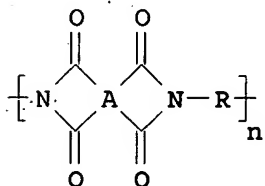
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10048635	A2	19980220	JP 1996-216981	1996 0731

PRIORITY APPLN. INFO.: JP 1996-216981

1996  
0731

OTHER SOURCE(S): MARPAT 128:210969  
 GI



I

AB The device has a layer of polyimide having a structural repeating  
 unit I (A = 4-valent aliphatic or aromatic hydrocarbyl; R =  
 OH-substituted C2-8 n-alkylene) on  $\geq 1$  substrate.  
 Preferably, the polyimide layer is an orientation-controlling  
 layer. The device is useful as a light valve for flat  
 panel displays, projection displays, and printers. The  
 display using the device is also claimed. The displays shows less  
 deterioration in driving margin, good orientation, and durability.  
 IT 27082-81-1 203933-87-3 203933-88-4



203933-89-5 203933-90-8 203933-91-9  
 203933-92-0 203933-93-1 203933-94-2  
 203933-95-3 203933-96-4 203933-97-5  
 203933-98-6 203933-99-7 203934-00-3  
 203934-01-4

(liquid-crystal device having OH-containing  
 polyimide layer for display with high driving stability)

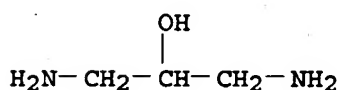
RN 27082-81-1 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
 1,3-diamino-2-propanol (9CI) (CA INDEX NAME)

CM 1

CRN 616-29-5

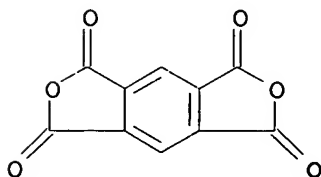
CMF C3 H10 N2 O



CM 2

CRN 89-32-7

CMF C10 H2 O6



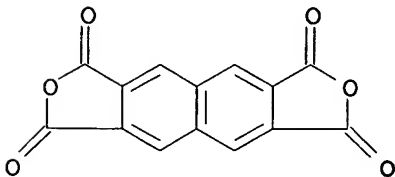
RN 203933-87-3 HCAPLUS

CN 1H,3H-Naphtho[2,3-c:6,7-c']difuran-1,3,6,8-tetrone, polymer with  
 1,3-diamino-2-propanol (9CI) (CA INDEX NAME)

CM 1

CRN 3711-01-1

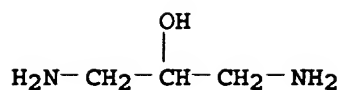
CMF C14 H4 O6



CM 2

CRN 616-29-5

CMF C3 H10 N2 O



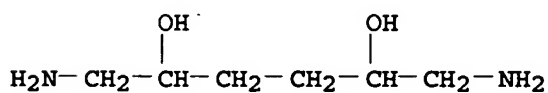
RN 203933-88-4 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with  
1,6-diamino-2,5-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3662-39-3

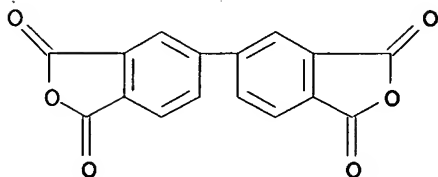
CMF C6 H16 N2 O2



CM 2

CRN 2420-87-3

CMF C16 H6 O6



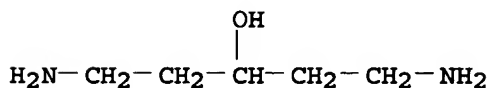
RN 203933-89-5 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
1,5-diamino-3-pentanol (9CI) (CA INDEX NAME)

CM 1

CRN 38595-00-5

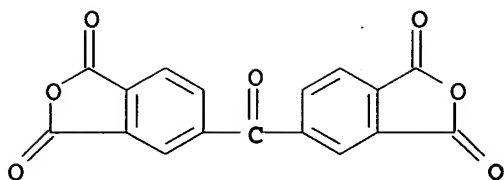
CMF C5 H14 N2 O



CM 2

CRN 2421-28-5

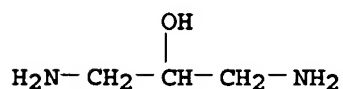
CMF C17 H6 O7



RN 203933-90-8 HCAPLUS  
 CN [2]Benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone, polymer  
 with 1,3-diamino-2-propanol (9CI) (CA INDEX NAME)

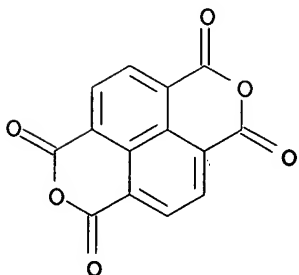
CM 1

CRN 616-29-5  
 CMF C3 H10 N2 O



CM 2

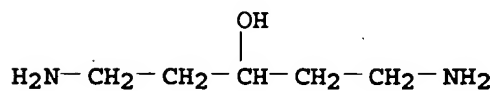
CRN 81-30-1  
 CMF C14 H4 O6



RN 203933-91-9 HCAPLUS  
 CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with  
 1,5-diamino-3-pentanol (9CI) (CA INDEX NAME)

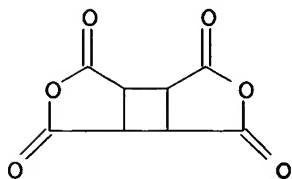
CM 1

CRN 38595-00-5  
 CMF C5 H14 N2 O



CM 2

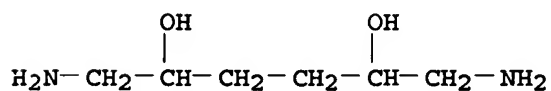
CRN 4415-87-6  
CMF C8 H4 O6



RN 203933-92-0 HCAPLUS  
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
1,6-diamino-2,5-hexanediol (9CI) (CA INDEX NAME)

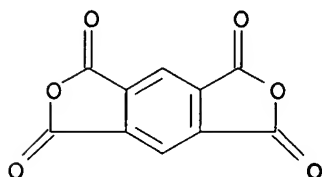
CM 1

CRN 3662-39-3  
CMF C6 H16 N2 O2



CM 2

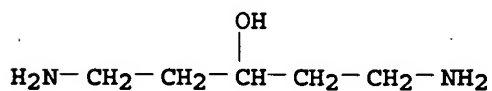
CRN 89-32-7  
CMF C10 H2 O6



RN 203933-93-1 HCAPLUS  
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with  
1,5-diamino-3-pentanol (9CI) (CA INDEX NAME)

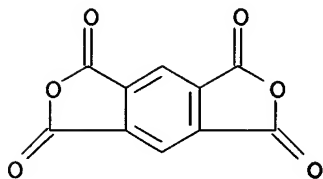
CM 1

CRN 38595-00-5  
CMF C5 H14 N2 O

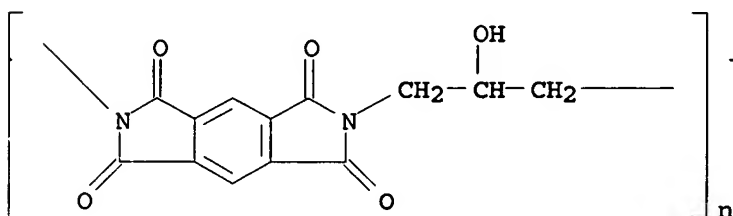


CM 2

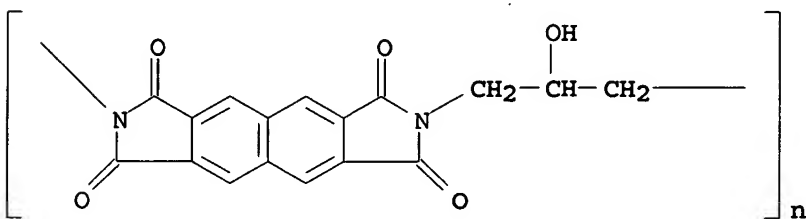
CRN 89-32-7  
CMF C10 H2 O6



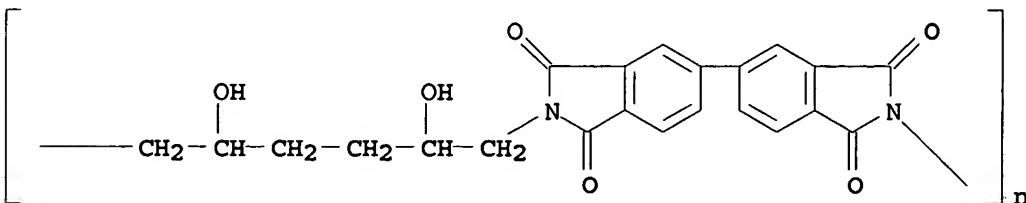
RN 203933-94-2 HCAPLUS  
CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl) (2-hydroxy-1,3-propanediyl)] (9CI) (CA INDEX NAME)



RN 203933-95-3 HCAPLUS  
CN Poly[(6,8-dihydro-1,3,6,8-tetraoxoisindolo[5,6-f]isoindole-2,7(1H,3H)-diyl) (2-hydroxy-1,3-propanediyl)] (9CI) (CA INDEX NAME)

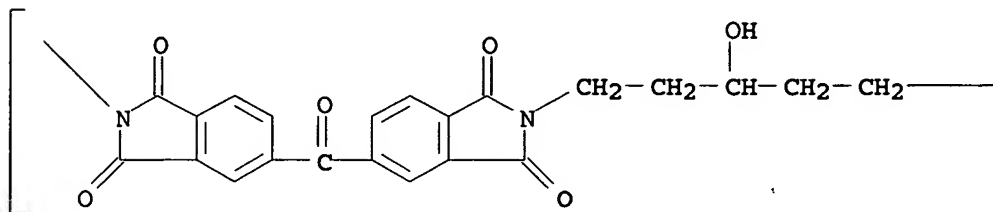


RN 203933-96-4 HCAPLUS  
CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-isoindole]-2,2'-diyl) (2,5-dihydroxy-1,6-hexanediyl)] (9CI) (CA INDEX NAME)



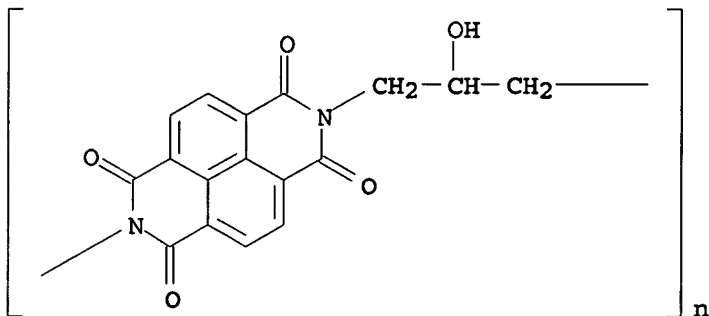
RN 203933-97-5 HCAPLUS  
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(3-hydroxy-1,5-pentanediy)] (9CI) (CA INDEX NAME)

PAGE 1-A

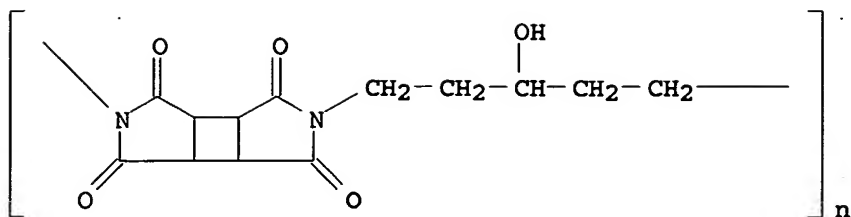


PAGE 1-B

RN 203933-98-6 HCAPLUS  
 CN Poly[(1,3,6,8-tetrahydro-1,3,6,8-tetraoxobenzo[1,3,6,8]phenanthroline-2,7-diyl)(2-hydroxy-1,3-propanediy)] (9CI) (CA INDEX NAME)

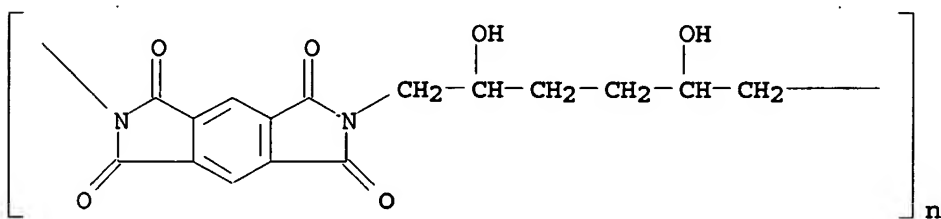


RN 203933-99-7 HCAPLUS  
 CN Poly[(octahydro-1,3,4,6-tetraoxocyclobuta[1,2-c:3,4-c']dipyrrole-2,5-diyl)(3-hydroxy-1,5-pentanediy)] (9CI) (CA INDEX NAME)



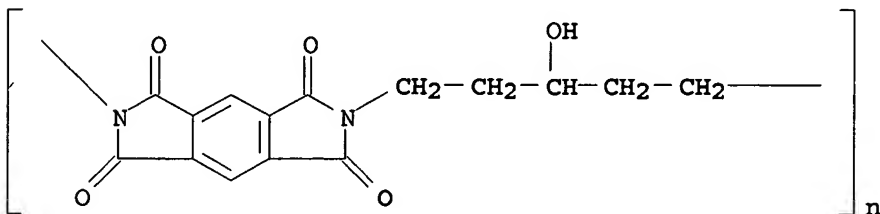
RN 203934-00-3 HCAPLUS

CN Poly[(5,7-dihydro-1,3,5,7-tetraoxabenzodipyrrole-2,6(1H,3H)-diyl)(2,5-dihydroxy-1,6-hexanediyl)] (9CI) (CA INDEX NAME)



RN 203934-01-4 HCAPLUS

CN Poly[(5,7-dihydro-1,3,5,7-tetraoxabenzodipyrrole-2,6(1H,3H)-diyl)(3-hydroxy-1,5-pentanediyl)] (9CI) (CA INDEX NAME)



IC ICM G02F001-1337

ICS C09K019-08; G02F001-13; C08G073-10; C09D179-08

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

IT 27082-81-1 203933-87-3 203933-88-4  
203933-89-5 203933-90-8 203933-91-9  
203933-92-0 203933-93-1 203933-94-2  
203933-95-3 203933-96-4 203933-97-5  
203933-98-6 203933-99-7 203934-00-3  
203934-01-4

(liquid-crystal device having OH-containing polyimide layer for display with high driving stability)

L24 ANSWER 39 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:722961 HCAPLUS

DOCUMENT NUMBER: 128:41514

TITLE: Polymer-stabilized ferroelectric liquid  
crystal devices with grayscale memory  
AUTHOR(S): Fujikake, Hideo; Takizawa, Kuniharu; Kikuchi,  
Hiroshi; Fujii, Takanori; Kawakita, Masahiro;  
Aida, Tahito  
CORPORATE SOURCE: NHK Science and Technical Research  
Laboratories, Tokyo, 157, Japan  
SOURCE: Japanese Journal of Applied Physics, Part 1:  
Regular Papers, Short Notes & Review Papers  
(1997), 36(10), 6449-6454  
CODEN: JAPNDE; ISSN: 0021-4922  
PUBLISHER: Japanese Journal of Applied Physics  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A novel gray-scale-memory ferroelec. liquid crystal device with  
polymer dispersion has been studied. The ferroelec. liquid crystal  
mols. are stabilized by a low-concentration doped polymer, which induces  
an enormous number of small liquid crystal domains with different  
threshold voltages for bistable switching. The poly-domain has a  
spatial gray-scale effect due to domain distribution. In forming  
the polymer-dispersion system with phase separation under UV light  
irradiation, a solution of liquid crystal and pre-polymer was heated at the  
chiral nematic phase, and the directors of liquid crystal and  
pre-polymer mols. were oriented parallel to the rubbing direction  
of alignment layers on substrates. A unique microscopic  
striped texture extending parallel to the rubbing direction was  
observed at a room temperature, and could be used to form the small  
domains. The 2- $\mu$ m-thick device, fabricated by addition of 4 wt%  
polymer and strong UV irradiation of 40mW/cm<sup>2</sup>, exhibited excellent  
gray-scale memory according to applied voltage pulses of a few V.  
It has much potential for use in high-resolution matrix panel  
displays.

IT 127538-64-1, JSR-AL 1254  
(polyimide alignment layer; polymer-stabilized ferroelec.  
liquid crystal devices with gray-scale memory)

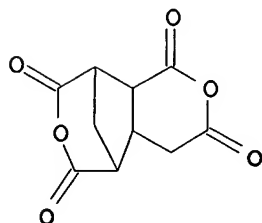
RN 127538-64-1 HCAPLUS

CN 5,9-Methano-1H-pyrano[3,4-d]oxepin-1,3,6,8(4H)-tetrone;  
tetrahydro-, polymer with 4,4'-methylenebis[benzenamine] (9CI)  
(CA INDEX NAME)

CM 1

CRN 6053-46-9

CMF C10 H8 O6

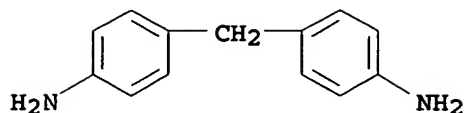


CM 2

CRN 101-77-9



CMF C13 H14 N2



CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

IT 127538-64-1, JSR-AL 1254

(polyimide alignment layer; polymer-stabilized ferroelec.  
liquid crystal devices with gray-scale memory)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L24 ANSWER 40 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:688467 HCAPLUS

DOCUMENT NUMBER: 128:8709

TITLE: A development of automatic light control  
filter with liquid crystal

AUTHOR(S): Sughishima, Aiko; Fuyama, Nobuyuki; Fujii,  
Toshio; Murakawa, Akitoshi; Ito, Koichi

CORPORATE SOURCE: Western Hiroshima Prefect. Ind. Res. Inst.,  
Japan

SOURCE: Hiroshima-kenritsu Seibu Kogyo Gijutsu Senta  
Kenkyu Hokoku (1997), 40, 84-86

CODEN: HSGHEM; ISSN: 0915-194X

PUBLISHER: Hiroshima-kenritsu Seibu Kogyo Gijutsu Senta

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Recently, more light and portable LCD panel have been  
demanded. So far glass sheet has been used to produce LCD  
panel, but it is heavy and frangible. Instead of glass  
sheet, plastic sheet has been studied to use for a part of LCD  
panel by many researchers. In this work, we change  
elements (substrate temperature, chamber pressure, the flow or  
Ar and O<sub>2</sub>, and sputtering time) to make ITO film on plastic sheet  
in less than 573 K. In addition, we make an application of light  
control circuit and try to develop Automatic Light Control Filter  
with Liquid Crystal. As results, the effect of O<sub>2</sub> installation to  
produce ITO film on glass sheet is risen the sheet resistance. As  
the plane of plastic sheet does not keep the degree of parallel,  
the sheet could not use for a part of LCD panel.

IT 9011-14-7, Polymethyl methacrylate  
(development of automatic light control filter with liq  
. crystal)

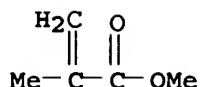
RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA  
INDEX NAME)

CM 1

CRN 80-62-6

CMF C5 H8 O2



CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 73, 75  
IT 9002-86-2, PVC 9011-14-7, Polymethyl methacrylate  
25038-59-9, Polyethyl;ene terephthalate, uses 50926-11-9, ITO  
(development of automatic light control filter with liq  
crystal)

L24 ANSWER 41 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:682056 HCAPLUS

DOCUMENT NUMBER: 128:8815

TITLE: Manufacture of liquid crystal display  
panel

INVENTOR(S): Suzuki, Hiroyuki; Kameyama, Makoto; Yoshikawa,  
Toshiaki

PATENT ASSIGNEE(S): Canon K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09269496	A2	19971014	JP 1996-77709	1996 0329

PRIORITY APPLN. INFO.: JP 1996-77709

AB In the title manufacture comprising a process to coat an  
electrode-bearing substrate with a resin, a process to  
press the resin with a press means to fill the gaps between the  
electrodes with the resin, a process to cure the resin, and a  
process to remove the press means from the resin, the manufacture  
addnl. includes a process to coat the uneven resin surface with a  
resin, a process to press the resin with a press means, and a  
process to cure the resin. The resin may be an UV-curable resin.  
The manufacture produces the smooth resin surface.

IT 120750-64-3, Neopentylglycol diacrylate-pentaerythritol  
triacylate copolymer

(resin layer for manufacturing liquid crystal  
display panel)

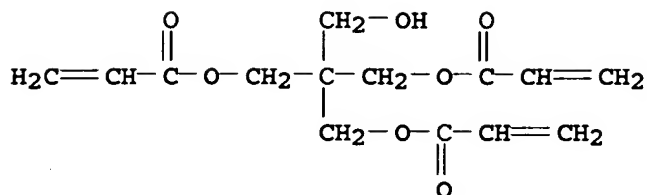
RN 120750-64-3 HCAPLUS

CN 2-Propenoic acid, 2,2-dimethyl-1,3-propanediyl ester, polymer with  
2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-  
propanediyl di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 3524-68-3

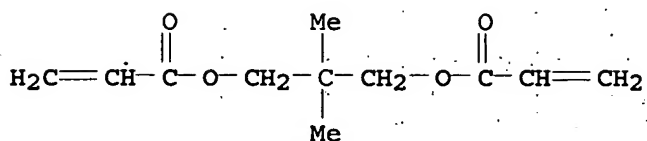
CMF C14 H18 O7



CM 2

CRN 2223-82-7

CMF C11 H16 O4



IC ICM G02F001-1343

ICS G02F001-1333; G09F009-30

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

ST liq crystal display panel

IT 120750-64-3, Neopentylglycol diacrylate-pentaerythritol  
triacylate copolymer  
(resin layer for manufacturing liquid crystal  
display panel)

L24 ANSWER 42 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:508730 HCAPLUS

DOCUMENT NUMBER: 127:197828

TITLE: Polyimide-based orientation film material,  
liquid-crystal display panel using  
it, and its manufacture

INVENTOR(S): Suzuki, Teruaki; Suzuki, Shigeyoshi

PATENT ASSIGNEE(S): NEC Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09185068	A2	19970715	JP 1995-353392	1995 1228
JP 2853629	B2	19990203	JP 1995-353392	1995

PRIORITY APPLN. INFO.:

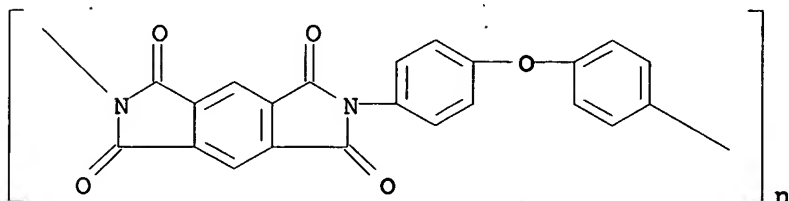
1228

AB The orientation film material contains a polyimide (precursor), a photocrosslinking agent, and a long-chain alkyl-substituted low mol.-weight compound. The manufacture of the liquid-crystal display panel, which includes a spray-type nematic liquid crystal sandwiched with a pair of substrates laminated with oriented films, resp., is manufactured by applying the above orientation film material on one or both of the substrates to form an oriented film, irradiating UV to the film via a photomask, firing the film, and rubbing the surface of the film to form a minutely oriented region showing slightly different pretilt angles at every narrow area. The display panel is also claimed. The panel is manufactured in simple processes.

IT 25036-53-7DP, 4,4'-Diaminodiphenyl ether-pyromellitic anhydride copolymer, sru, reaction products with diazides and acrylic compds. 25038-81-7DP, 4,4'-Diaminodiphenyl ether-pyromellitic anhydride copolymer, reaction products with diazides and acrylic compds.  
(manufacture of polyimide-based orientation film material and liquid-crystal display panel using it)

RN 25036-53-7 HCAPLUS

CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl)-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



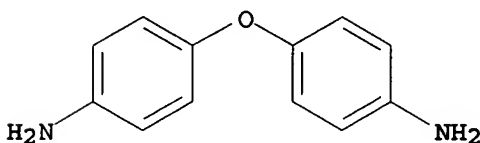
RN 25038-81-7 HCAPLUS

CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 101-80-4

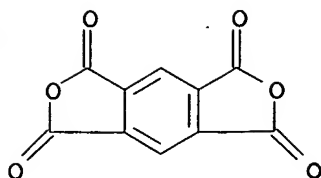
CMF C12 H12 N2 O



CM 2

CRN 89-32-7

CMF C10 H2 O6



- IC ICM G02F001-1337  
ICS C08G073-10; C09K019-56
- CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38
- ST polyimide liq crystal orientation film rubbing; display  
panel liq crystal orientation film; photocrosslinking  
acrylic polyimide orientation film; pretilt angle variation  
orientation film
- IT Liquid crystal displays  
(manufacture of polyimide-based orientation film material and  
liquid-crystal display panel using it)
- IT Polyimides, preparation  
(reaction products with diazides and acrylic compds.; manufacture of  
polyimide-based orientation film material and liquid-crystal  
display panel using it)
- IT 2156-97-0DP, reaction products with diazides and polyimides;  
4813-57-4DP, Stearyl acrylate, reaction products with diazides and  
polyimides 5284-79-7DP, 2,6-Bis(4'-azidobenzal)-4-  
methylcyclohexanone, reaction products with polyimides and acrylic  
compds. 5284-80-0DP, 1,3-Bis(4'-azidobenzal)-2-propanone,  
reaction products with polyimides and acrylic compds.  
25036-53-7DP, 4,4'-Diaminodiphenyl ether-pyromellitic  
anhydride copolymer, sru, reaction products with diazides and  
acrylic compds. 25038-81-7DP, 4,4'-Diaminodiphenyl  
ether-pyromellitic anhydride copolymer, reaction products with  
diazides and acrylic compds. 32360-05-7DP, reaction products  
with diazides and polyimides 35460-18-5DP, reaction products  
with polyimides and acrylic compds. 141092-28-6DP, LQ 2200,  
reaction products with diazides and acrylic compds.  
194368-87-1DP, SE 1180(0322), reaction products with diazides and  
acrylic compds.  
(manufacture of polyimide-based orientation film material and  
liquid-crystal display panel using  
it)

L24 ANSWER 43 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:393716 HCAPLUS

DOCUMENT NUMBER: 127:42449

TITLE: Optical laminate sheet as electrode  
substrate for liquid-crystal display  
panel

INVENTOR(S): Ichikawa, Rinjiro; Terui, Hirotooshi; Torisu,  
Hiroyuki; Maenaka, Koji

PATENT ASSIGNEE(S): Fujimori Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09096803	A2	19970408	JP 1995-276395	1995 0930
JP 3406134	B2	20030512	JP 1995-276395	1995 0930

PRIORITY APPLN. INFO.:

AB The title optical laminate sheet comprises an inner hardened resin layer and an air impermeable layer successively formed on both sides of a resin sheet cured by an actinic energy beam. This optical laminate sheet gives many properties close to those of a glass substrate.

IT 184909-48-6, Acrylic acid-N-methylolacrylamide-vinyl alcohol graft copolymer (liquid-crystal display substrate from)

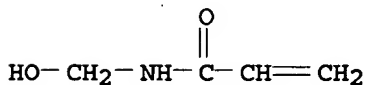
RN 184909-48-6 HCAPLUS

CN 2-Propenoic acid, polymer with ethenol and N-(hydroxymethyl)-2-propenamide, graft (9CI) (CA INDEX NAME)

CM 1

CRN 924-42-5

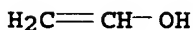
CMF C4 H7 N O2



CM 2

CRN 557-75-5

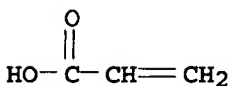
CMF C2 H4 O



CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02F001-1333

ICS B32B027-00; C08J007-04; G02B005-00; G02B001-04

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
ST optical laminate substrate liq crystal display  
IT Polyesters, uses  
(liquid-crystal display substrate from)  
IT Liquid crystal displays  
(optical laminate sheet as electrode substrate for  
liquid-crystal display panel)  
IT 25038-59-9, Polyethylene terephthalate, uses 184909-48-6  
, Acrylic acid-N-methylolacrylamide-vinyl alcohol graft copolymer  
(liquid-crystal display substrate  
from)

L24 ANSWER 44 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:195504 HCAPLUS  
DOCUMENT NUMBER: 126:193049  
TITLE: Liquid crystal display device capable of  
receiving drawing input  
INVENTOR(S): Furuta, Yoshihisa; Oora, Masahiro; Takahira,  
Hitoshi; Yoshikawa, Takao; Okada, Hideyuki  
PATENT ASSIGNEE(S): Nitto Denko Corp, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09006256	A2	19970110	JP 1995-176837	1995 0619

PRIORITY APPLN. INFO.: JP 1995-176837

1995  
0619

AB The liquid crystal display device has a stack of a plastic tablet  
plate and a transparent tacky polymer buffer sheet with the glass  
transition temperature of  $\leq -30^\circ$  on the viewing side of a  
liquid crystal display panel. Because of the buffer  
sheet, the tablet plate can be laminated on the liquid crystal  
display panel at high yield.

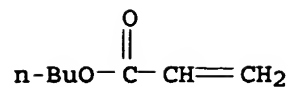
IT 187618-17-3P, Acrylic acid-butyl acrylate-isocyanic acid  
copolymer 187618-18-4P, Acrylic acid-nonyl  
acrylate-trimethylolpropane triacrylate copolymer  
(crosslinked; tablet plate of liquid  
crystal display device capable of receiving drawing  
input)

RN 187618-17-3 HCAPLUS

CN 2-Propenoic acid, polymer with butyl 2-propenoate and isocyanic  
acid (9CI) (CA INDEX NAME)

CM 1

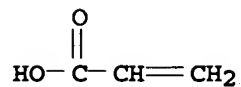
CRN 141-32-2  
CMF C7 H12 O2



CM 2

CRN 79-10-7

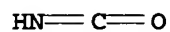
CMF C3 H4 O2



CM 3

CRN 75-13-8

CMF C H N O



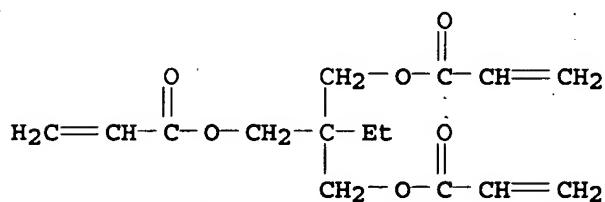
RN 187618-18-4 HCAPLUS

CN 2-Propenoic acid, polymer with 2-ethyl-2-[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl di-2-propenoate and nonyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 15625-89-5

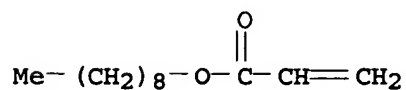
CMF C15 H20 O6



CM 2

CRN 2664-55-3

CMF C12 H22 O2

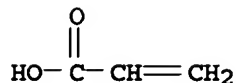




CM 3

CRN 79-10-7

CMF C3 H4 O2



IC ICM G09F009-00  
ICS G02F001-133; G02F001-1333  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38  
IT 187618-17-3P, Acrylic acid-butyl acrylate-isocyanic acid  
copolymer 187618-18-4P, Acrylic acid-nonyl  
acrylate-trimethylolpropane triacrylate copolymer  
(crosslinked; tablet plate of liquid  
crystal display device capable of receiving drawing  
input)

L24 ANSWER 45 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:180636 HCAPLUS  
DOCUMENT NUMBER: 126:179161  
TITLE: Ink for color filter, color filter, its  
manufacture, and liquid crystal panel  
using it  
INVENTOR(S): Shiota, Katsuhiko; Myazaki, Takeshi;  
Nakazawa, Koichiro; Yamada, Satohiko  
PATENT ASSIGNEE(S): Canon Kk, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08327998	A2	19961213	JP 1995-135107	1995 0601

PRIORITY APPLN. INFO.: JP 1995-135107

1995  
0601

AB The ink, used in production of color filters in which inks are applied on a substrate by ink-jet process to form plural colored pixels, contains a (1-9):(9-1) weight ratio mixture of a phthalocyanine dye and a triphenylmethane dye and 10-60 weight% solvent with b.p. 150-240°. In the manufacture of the color filter by applying the ink on an optically transparent ink-receptive layer formed on a substrate to arrange plural colored pixels on the layer, the quantity of the dye applied on the layer is controlled to less than  $4.0 + 10^{-3}$  ng/ $\mu\text{m}^3$ . The ink may be applied on an ink-receptive layer containing a polymer having an acrylic monomer unit  $\text{CH}_2\text{CR}_1(\text{CONHCH}_2\text{OR}_2)$  [ $\text{R}_1 = \text{H, Me}$ ;  $\text{R}_2 = \text{H, (substituted)}$ ]

alkyl]. The color filter and liquid crystal panel using it are also claimed. The ink shows good heat resistance and adhesion to substrate and high color quality color filter with high contrast and without blotting is obtained.

IT 36356-70-4, 2-Hydroxyethyl methacrylate-N-Methylolacrylamide copolymer 167860-30-2, Acrylic acid-2-hydroxyethyl methacrylate-methyl methacrylate-N-methylolacrylamide copolymer  
(ink-receiving layer; color filter ink containing phthalocyanine and triphenylmethane dyes for manufacture of liquid crystal display)

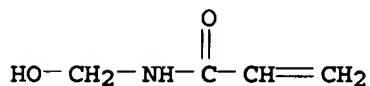
RN 36356-70-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with N-(hydroxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 924-42-5

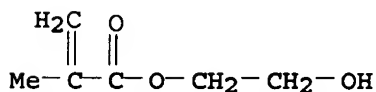
CMF C4 H7 N O2



CM 2

CRN 868-77-9

CMF C6 H10 O3



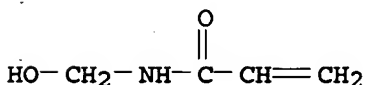
RN 167860-30-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with N-(hydroxymethyl)-2-propenamide, methyl 2-methyl-2-propenoate and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 924-42-5

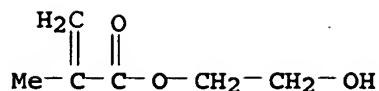
CMF C4 H7 N O2



CM 2

CRN 868-77-9

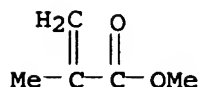
CMF C6 H10 O3



CM 3

CRN 80-62-6

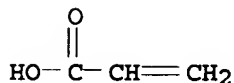
CMF C5 H8 O2



CM 4

CRN 79-10-7

CMF C3 H4 O2



IC ICM G02F001-1335

ICS B41M005-00; C09D011-00; G02B005-20

CC 74-13 (Radiation Chemistry, Photochemistry, and

**Photographic and Other Reprographic Processes)**

Section cross-reference(s): 41, 42

IT 36356-70-4, 2-Hydroxyethyl methacrylate-N-

Methylolacrylamide copolymer 167860-30-2, Acrylic

acid-2-hydroxyethyl methacrylate-methyl methacrylate-N-

methylolacrylamide copolymer

(ink-receiving layer; color filter ink containing phthalocyanine  
and triphenylmethane dyes for manufacture of liquid  
crystal display)

L24 ANSWER 46 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:51492 HCAPLUS

DOCUMENT NUMBER: 126:82358

TITLE: Liquid crystal display unit preventing short  
circuit and its manufacture

INVENTOR(S): Kamoi, Sumio

PATENT ASSIGNEE(S): Ricoh Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08292444 A2 19961105 JP 1995-95084

1995  
0420

JP 3404176 B2 20030506

1995  
0420

PRIORITY APPLN. INFO.: JP 1995-95084

AB In the unit, including a display panel with a pair of polymer substrates and an anisotropic elec. conductive heat-seal connector connecting the panel and an external circuit substrate elec., the connector contains a high-barrier resin on a part of its support film. The panel includes a patterned ITO substrate sealing liquid crystals in it, and is adhered with the connector by its electrode-leading part via the high-barrier resin by heat sealing. Optionally, the high-barrier resin may be applied on exposed parts of the electrode. The unit is manufactured by heat sealing of the panel, the connector, and the high-barrier resin to unite them. The unit prevents deterioration of electrodes to show high reliability.

IT 25014-41-9, Polyacrylonitrile  
(high-barrier resin; liquid crystal display  
unit containing high-barrier resin and its manufacture)

RN 25014-41-9 HCAPLUS

CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1

CMF C3 H3 N



IC ICM G02F001-1345  
ICS G09F009-00; H01R011-01

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38, 75

ST liq crystal display short circuit prevention; barrier resin  
coating connector display panel

IT Polycarbonates, processes  
(substrate; liquid crystal display unit containing  
high-barrier resin and its manufacture)

IT 75-35-4D, Vinylidene chloride, polymers 25014-41-9,  
Polyacrylonitrile  
(high-barrier resin; liquid crystal display  
unit containing high-barrier resin and its manufacture)

L24 ANSWER 47 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:271588 HCAPLUS

DOCUMENT NUMBER: 124:302753

TITLE: Electrically insulative film and ferroelectric  
liquid crystal panel using same

INVENTOR(S): Oogoshi, Kyohito; Kuma, Hitoshi

PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08043810	A2	19960216	JP 1994-180296	1994 0801

PRIORITY APPLN. INFO.: JP 1994-180296  
 1994  
 0801

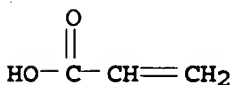
AB The title insulative film is obtained by dispersing elec. conductive fine particles of a specific resistance  $\leq 1 \times 10^8$  into a polymer of a specific inductive capacity  $\geq 15$ , and has a specific inductive capacity  $\geq 10$  in the specific resistance range of  $1 \times 10^2 - 5 \times 10^9 \Omega \text{cm}$  and a thickness  $\geq 0.2 \mu\text{m}$ . The liquid crystal panel has a ferroelec. liquid crystal layer between a pair of insulative films one of which is formed on a substrate via a transparent electrode.

IT 9003-01-4D, Polyacrylic acid, Cyanoethyl derivs  
 9003-05-8D, Polyacrylamide, Cyanoethyl derivs  
 (as binder of elec. insulative film for ferroelec. liq  
 . crystal panel)

RN 9003-01-4 HCAPLUS  
 CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

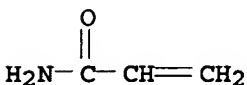
CRN 79-10-7  
 CMF C3 H4 O2



RN 9003-05-8 HCAPLUS  
 CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-06-1  
 CMF C3 H5 N O



IC ICM G02F001-1333  
 ICS H01B003-00  
 CC 74-13 (Radiation Chemistry, Photochemistry, and  
 Photographic and Other Reprographic Processes)

ST elec insulative film liq crystal panel; ferroelec liq crystal panel insulative film

IT 1312-43-2, Indium oxide  
(antimony doped; elec. conductive particle for forming elec. insulative film for ferroelec. liquid crystal panel)

IT 57-50-1D, Saccharose, Cyanoethyl derivs 9002-89-5D, Polyvinyl alcohol, Cyanoethyl ether 9003-01-4D, Polyacrylic acid, Cyanoethyl derivs 9003-05-8D, Polyacrylamide, Cyanoethyl derivs 9004-41-5, Cyanoethyl cellulose 9005-82-7D, Amylose, Cyanoethyl derivs 24937-79-9 28960-88-5 77466-56-9, Cyanoethyl pullulan  
(as binder of elec. insulative film for ferroelec. liq crystal panel)

IT 1314-13-2, Zinc oxide, uses 7440-06-4, Platinum, uses 7440-22-4, Silver, uses 7440-57-5, Gold, uses 13463-67-7, Titanium oxide (TiO<sub>2</sub>), uses 18282-10-5, Tin oxide (SnO<sub>2</sub>) 50926-11-9, ITO  
(elec. conductive particle for forming elec. insulative film for ferroelec. liquid crystal panel)

L24 ANSWER 48 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:240093 HCAPLUS

DOCUMENT NUMBER: 124:274715

TITLE: Liquid crystal display panel film substrate with improved birefringence, mechanical strength, dimensional stability and heat-resistance

INVENTOR(S): Yatabe, Toshiaki; Morisada, Kazuhito; Igarashi, Satoshi; Jo, Hisashi

PATENT ASSIGNEE(S): Teijin Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08054615	A2	19960227	JP 1994-187253	1994 0809

PRIORITY APPLN. INFO.: JP 1994-187253

1994  
0809  
1994  
0809

AB The title substrate is made of a polycarbonate film with an average mol. weight of  $\geq 30,000$  and Tg of  $\geq 160^\circ$  in which bisphenol component of the polycarbonate film contains perhydro isophorone or fluorene. The substrate may be made of an aromatic polyester carbonate film with an average mol. weight of  $\geq 30,000$  and Tg of  $\geq 160^\circ$  in which terephthalic acid and/or isophthalic acid are used as a monomer(s).

IT 29008-27-3  
(liquid crystal display panel film substrate with improved birefringence, mech. strength, dimensional stability and heat-resistance)

RN 29008-27-3 HCAPLUS

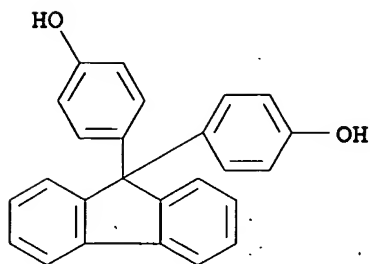
CN Carbonic dichloride, polymer with 4,4'-(9H-fluoren-9-

ylidene)bis[phenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI)  
(CA INDEX NAME)

CM 1

CRN 3236-71-3

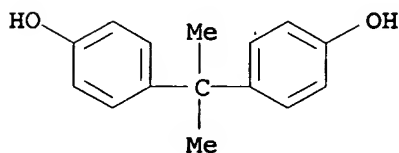
CMF C25 H18 O2



CM 2

CRN 80-05-7

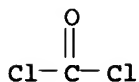
CMF C15 H16 O2



CM 3

CRN 75-44-5

CMF C Cl2 O



IC ICM G02F001-1333

ICS C08G064-06

ICA C08G063-64

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

ST liq crystal display polycarbonate **substrate**

IT Polycarbonates, uses

(liquid crystal display **panel film substrate**  
with improved birefringence, mech. strength, dimensional  
stability and heat-resistance)

IT Optical imaging devices

(electrooptical liquid-crystal, liquid crystal display  
**panel film substrate** with improved

birefringence, mech. strength, dimensional stability and heat-resistance)

IT Polyesters, uses  
(polycarbonate-, liquid crystal display panel film substrate with improved birefringence, mech. strength, dimensional stability and heat-resistance)

IT Polycarbonates, uses  
(polyester-, liquid crystal display panel film substrate with improved birefringence, mech. strength, dimensional stability and heat-resistance)

IT 29008-27-3  
(liquid crystal display panel film substrate with improved birefringence, mech. strength, dimensional stability and heat-resistance)

L24 ANSWER 49 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:205323 HCAPLUS

DOCUMENT NUMBER: 124:274668

TITLE: Polymer dispersion-type liquid crystal display devices

INVENTOR(S): Koyama, Hitoshi; Tabata, Shin; Tsumura, Akira; Mizunuma, Masaya; Tamaya, Akira; Masumi, Tatsuo

PATENT ASSIGNEE(S): Mitsubishi Electric Corp, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08005994	A2	19960112	JP 1994-135846	1994 0617

PRIORITY APPLN. INFO.:

JP 1994-135846

1994 0617

AB In the title liquid crystal devices comprising a liquid crystal in which its droplets are dispersed in a polymer matrix formed from a photopolymerizable composition, sandwiched by a pair of substrates  $\geq 1$  of which has transparent electrodes, the composition contains a 50-90:10-50 weight ratio mixture of a monofunctional monomer with mol. weight 110-340 and a polyfunctional monomer with mol. weight 190-640 and a photopolymer. initiator 0.7-20 mol% to the monomer components, light scattering particles are dispersed in the matrix, and the difference between the refractive indexes of the particles and the matrix is 0.01-0.2. The leaking of light from the display area is little and the light transmittance is low when no potential is applied to the device, and hence high contrast displays are obtained. Thus, a solution containing 2-ethylhexyl acrylate, tetraethylene glycol dimethacrylate, Darocur 1116 (photopolymer. initiator), and E8 (liquid crystal composition) was mixed with SiO<sub>2</sub> particles. The mixture was poured into a TFT panel made from 2 glass substrates with ITO electrodes and irradiated with UV to give a liquid crystal display device.



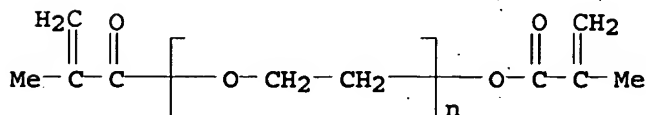
IT 114296-36-5 175344-33-9 175344-34-0  
 (polymer dispersion-type liquid crystal  
 display device)  
 RN 114296-36-5 HCAPLUS  
 CN 2-Propenoic acid, 2-ethylhexyl ester, polymer with  
 $\alpha$ -(2-methyl-1-oxo-2-propenyl)- $\omega$ -[(2-methyl-1-oxo-2-  
 propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25852-47-5

CMF (C2 H4 O)<sub>n</sub> C8 H10 O3

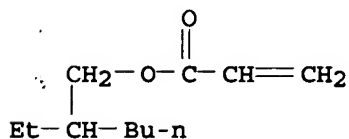
CCI PMS



CM 2

CRN 103-11-7

CMF C11 H20 O2

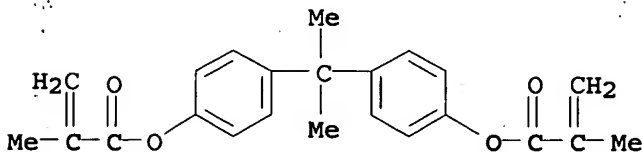


RN 175344-33-9 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, (1-methylethylidene)di-4,1-phenylene  
 ester, polymer with 2-ethylhexyl 2-propenoate (9CI) (CA INDEX  
 NAME)

CM 1

CRN 3253-39-2

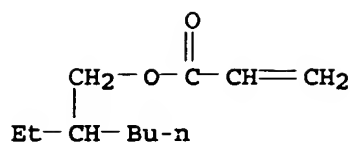
CMF C23 H24 O4



CM 2

CRN 103-11-7

CMF C11 H20 O2



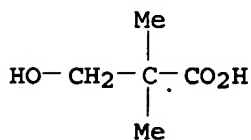
RN 175344-34-0 HCAPLUS

CN 2-Propenoic acid, 2,2-dimethyl-1,3-propanediyl ester, polymer with  
2-ethylhexyl 2-propenoate and 3-hydroxy-2,2-dimethylpropanoic acid  
(9CI) (CA INDEX NAME)

CM 1

CRN 4835-90-9

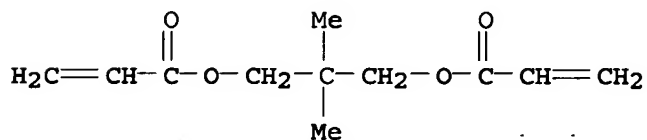
CMF C5 H10 O3



CM 2

CRN 2223-82-7

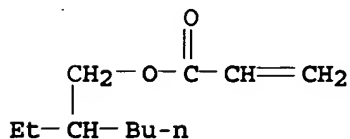
CMF C11 H16 O4



CM 3

CRN 103-11-7

CMF C11 H20 O2



IC ICM G02F001-1333

CC 74-13 (Radiation Chemistry, Photochemistry, and  
**Photographic** and Other Reprographic Processes)

IT 60937-74-8, E 8 (Liquid crystal) 114296-36-5

175344-33-9 175344-34-0

(polymer dispersion-type liquid crystal  
display device)

L24 ANSWER 50 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1996:171845 HCAPLUS  
 DOCUMENT NUMBER: 124:216255  
 TITLE: Manufacture of liquid crystal panels  
 INVENTOR(S): Majima, Kenji  
 PATENT ASSIGNEE(S): Sharp Kk, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07318952	A2	19951208	JP 1994-115120	1994 0527
JP 3074111	B2	20000807		
KR 187390	B1	19990501	KR 1995-14109	1995 0527
PRIORITY APPLN. INFO.:			JP 1994-115120	A 1994 0527

AB The manufacturing process comprises the steps of: forming a laminate comprising a liquid crystal-dispersed photopolymer interposed between a pair of patterned ITO-coated substrate; forming a matrix of the partition frame made of the cured photopolymer using a laser beam; and forming the display chips by dicing the laminate at the cured polymer frame.

IT 174568-86-6, Isobornyl methacrylate-p-phenylstyrene copolymer

(manufacture of liquid crystal panels)

RN 174568-86-6 HCAPLUS

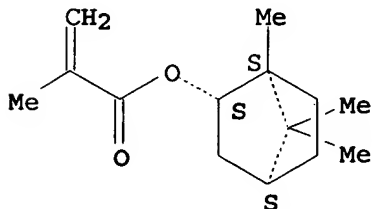
CN 2-Propenoic acid, 2-methyl-, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo-, polymer with 4-ethenyl-1,1'-biphenyl (9CI) (CA INDEX NAME)

CM 1

CRN 7534-94-3

CMF C14 H22 O2

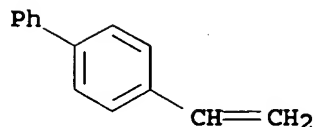
Relative stereochemistry.



CM 2

CRN 2350-89-2

CMF C14 H12



IC ICM G02F001-1339  
ICS G02F001-13; G02F001-1333  
CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)  
Section cross-reference(s): 73  
IT Lasers  
Liquid crystals  
Optical imaging devices  
(manufacture of liquid crystal panels)  
IT Polyimides, uses  
(manufacture of liquid crystal panels)  
IT 50926-11-9, ITO 146105-19-3, ZL-I4792 174568-86-6,  
Isobornyl methacrylate-p-phenylstyrene copolymer  
(manufacture of liquid crystal panels)

L24 ANSWER 51 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1995:780536 HCAPLUS  
DOCUMENT NUMBER: 123:183709  
TITLE: Liquid crystal display panel and its  
manufacture without rubbing process  
INVENTOR(S): Sato, Narihiro  
PATENT ASSIGNEE(S): Matsushita Electric Ind Co Ltd, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07175070	A2	19950714	JP 1993-321632	1993 1221
JP 3124425	B2	20010115		
JP 2000338493	A2	20001208	JP 2000-141306	1993 1221
JP 3220126	B2	20011022		
PRIORITY APPLN. INFO.:			JP 1993-321632	A3 1993 1221

AB The title display panel consists of a chiral nematic liquid crystal layer interposed between a pair of electrode-bearing substrates having a cross-linked organic

polymer layer. The organic polymer layer has random orientations.

IT 200511-28-0, AH 600  
(organic polymer layer of liquid crystal display panel)

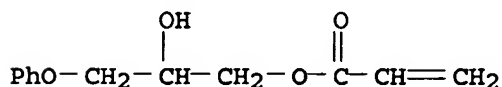
RN 200511-28-0 HCAPLUS

CN 2-Propenoic acid, 2-hydroxy-3-phenoxypropyl ester, polymer with 1,6-diisocyanatohexane (9CI) (CA INDEX NAME)

CM 1

CRN 16969-10-1

CMF C12 H14 O4



CM 2

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

IC ICM G02F001-1337

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST liq crystal display panel no rubbing

IT Epoxy resins, uses  
Urethane polymers, uses  
(organic polymer layer of liquid crystal display panel)

IT Optical imaging devices  
(electrooptical liquid-crystal, liquid crystal display panel and its manufacture without rubbing process)

IT 131715-19-0, Adeka Optomer KR 400 143710-09-2, KS 800  
200511-28-0, AH 600  
(organic polymer layer of liquid crystal display panel)

L24 ANSWER 52 OF 52 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:690287 HCAPLUS

DOCUMENT NUMBER: 123:270899

TITLE: Method of fabricating a polymer dispersed liquid crystal panel with measuring thickness, adjusting then hardening

INVENTOR(S): Takahara, Hiroshi; Yamamoto, Masao

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: U.S., 12 pp.  
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5426522	A	19950620	US 1993-101769	1993 0804
JP 06102498	A2	19940415	JP 1993-182571	1993 0723
JP 3225700	B2	20011105		
US 37219	E	20010612	US 1996-620156	1996 0322
PRIORITY APPLN. INFO.:			JP 1992-207759	A 1992 0804
			JP 1993-182571	A 1993 0723

AB An empty cell is produced by adhering an array substrate and a counter electrode substrate with a sealant resin of a predetd. height. A mixture liquid comprising liquid crystal and a polymerizable photo-setting resin is injected into the empty cell. The cell is interposed between a flat rigid bench and a flat rigid plate, and the mixture liquid is heated to make it transparent. The thickness of the mixture liquid is measured with an interferometer. If the measured thickness deviates from a predetd. range, the flat rigid plate is pressed until the measured thickness changes into the predetd. range. The mixture liquid is irradiated to form a liquid crystal/resin composite layer and then, the pressure is removed. Thus, a liquid crystal/resin composite layer of uniform thickness can be obtained.

IT 168216-91-9 168216-92-0 168706-34-1  
(fabricating a polymer dispersed liquid crystal panel with measured thickness)

RN 168216-91-9 HCAPLUS

CN 2-Propenoic acid, 2-ethylhexyl ester, polymer with 2-hydroxyethyl 2-propenoate and Viscoat 823 (9CI) (CA INDEX NAME)

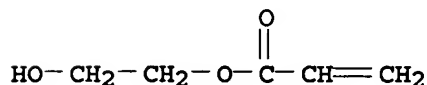
CM 1

CRN 95567-61-6  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

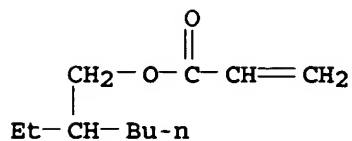
CRN 818-61-1  
CMF C5 H8 O3



CM 3

CRN 103-11-7

CMF C11 H20 O2



RN 168216-92-0 HCAPLUS

CN 2-Propenoic acid, 2-ethylhexyl ester, polymer with Viscoat 823  
(9CI) (CA INDEX NAME)

CM 1

CRN 95567-61-6

CMF Unspecified

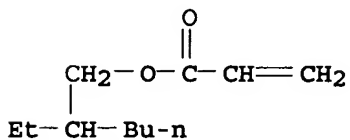
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 103-11-7

CMF C11 H20 O2



RN 168706-34-1 HCAPLUS

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with MT 1200 (9CI)  
(CA INDEX NAME)

CM 1

CRN 168147-84-0

CMF Unspecified

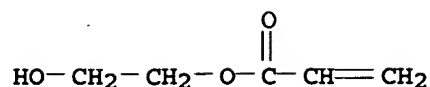
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 818-61-1

CMF C5 H8 O3



IC ICM G02F001-13

ICS G02F001-1335

INCL 359052000

CC 74-13 (Radiation Chemistry, Photochemistry, and  
Photographic and Other Reprographic Processes)

ST polymer dispersed liq crystal panel

IT Optical imaging devices

(electrooptical liquid-crystal, fabricating a polymer dispersed  
liquid crystal panel with measured thickness)

IT 168216-91-9 168216-92-0 168706-34-1

(fabricating a polymer dispersed liquid crystal  
panel with measured thickness)